THE INC. 500: AMERICA'S FASTEST-GROWING PRIVATE COMPANIES

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THE MARKET MAKERS

Most businesses are endlessly searching for new markets. Here's how America's growth leaders go out and create their own

BY JOHN CASE

Frankly, you have to wonder how Dave Archer's company, Pioneer Pipe, out in Marietta, Ohio, ever made it onto this year's list of the 500 fastest-growing private companies in America. On the face of it, there's nothing special about the business. Just an ordinary company in an ordinary town.

You might ask the same question about Rick Heiniger's company, RHS Fertilizing/Spraying Systems, in Hiawatha, Kans. Most of us wouldn't peg spraying and fertilizing for the prototypical growth industry. And hasn't the Farmbelt been in something of a slump over the past few years?

Maybe you even have to wonder about Gateway 2000, in North Sioux City, S. Dak., which makes and sells personal computers. Sure, Gateway's in an exploding industry. But the competition in that business includes such companies as IBM and Compaq, not to mention low-price manufacturers such as Dell. Only five years ago Gateway employed just two people.

Make no mistake: An appearance on the *Inc.* 500 is no small feat. As a group, the companies on this year's list boosted their collective revenues from $563 million in 1985 to $9.6 billion last year. They created 56,858 new jobs. The average company on the list has been growing at an annual rate of 103%, adding nearly 23 employees every year.

And what are these companies' secrets? Certainly there are plenty of entrepreneurs scratching their heads and wondering the same thing. *What did they do that I'm not doing? How on earth could someone in* that *business grow so fast?* The startling diversity of the *Inc.* 500 only adds to the puzzle. How can a supplier of metal stampings show up on the same list with a supplier of monoclonal-antibody cancer-diagnosis kits? What does a cheese maker have in

common with a computer-chip maker, or either one with a Social Security consultant?

Oddly, when you pose questions about growth to the founders of *Inc.* 500 companies, you hear little about the specific businesses they're in. Instead, you hear a lot about customers and competitors, all of it adding up to an unusual view of the marketplace. Other businesses typically think about serving a market; they want to do their job as well as, or better than, anyone else. *Inc.* 500 companies, by contrast, seem to think about *creating* a market. More often than not, they set out to do something no one else is doing.

How? Often by relentlessly pursuing One Big Idea—inventing a new product, a new niche, even a new industry. Some of the techno-wizards on our list fit into that category, as do some entrepreneurs who wouldn't know a floppy disk from a slipped disk. But other companies, remarkably enough, grow by exploiting not one idea but several, by creating not one new market but many. These companies—despite their modest size and deceptively ordinary veneer—*diversify*, though in a way that has little to do with old-fashioned, conglomerate-style diversification.

Other businesses typically think about serving a market, but *Inc.* 500 companies seem to think about *creating* a market. They set out to do something no one else is doing.

Both approaches have a big payoff. Consider some of the market-making companies on the list and you'll see what it is.

FOR A SELECT FEW, MARKET CREATION and *Inc.* 500–style growth originate with a big new technological idea—an idea that's then pursued with as much entrepreneurial as scientific zeal.

Krishan L. Kalra, for example, was working as a research chemist when he realized that the emerging biotechnology of monoclonal antibodies could be utilized for spotting cancer cells. Today Kalra's BioGenex Laboratories (#300) sells $2.3 million worth of diagnostic kits to hospitals and labs, and is spending heavily on research and development to investigate other methods of cancer diagnosis. Brooktree (#7), in San Diego, pioneered and patented a so-called mixed-signal computer chip, capable of condensing 25 square inches of circuit board onto one piece of silicon. Brooktree now holds an estimated 40% of the world market for the chips that produce colors on personal-computer and workstation screens.

But most Big Ideas aren't technological, even for companies in high-tech industries. Back in 1985, for example, Ted Waitt's Gateway 2000 was a tiny company selling software and peripherals for the ill-fated personal computer of Texas Instruments. Looking for growth opportunities, Waitt decided to get into the manufacture and sale of IBM-compatible PCs. But rather than take on all the companies in that crowded business, he figured he would sell through only one channel, mail-order ads in computer magazines. And he would sell for less than anyone else.

In effect, Waitt built an entire company to fill this niche. He located the business in South Dakota, where land and other costs are low. He pays employees as little as $6 an hour—minimizing fixed costs—and supplements the wage with regular bonuses from company profits. Gateway's single-minded marketing strategy eliminates retailers' markups and most salespeople's commissions; unlike other mail-order companies, such as Dell, it has no telemarketing expenses and no costly international operations. Its prices, as a result, are about half of IBM's—and typically are 10% to 20% below those of other direct marketers.

You also don't need any technological acumen to invent a new service, indeed, a whole new industry. Take James Allsup, founder and chief executive of Allsup & Associates (#239), based in Belleville, Ill. Before he started his company, Allsup's chief asset was five years with the government's Social Security Administration, which left him with a sizable store of knowledge and a profound distaste for the way his former employer treated the public. Disability claimants, for instance, were routinely discouraged from getting Social Security benefits, first by the complexity of the forms they had to fill out and then by the chilly reception they got from the agency. The losers in this process, Allsup realized, weren't just the victims themselves but also the insurance companies that wrote long-term disability policies. Disability benefits are typically reduced by the amount a claimant gets from Social Security. If nothing comes in from the feds, insurance foots the whole bill.

Loading up his car, Allsup set out on what turned into a 4,500-mile trip, visiting 27 insurance companies in three weeks. Give me a contract, he said, and I'll steer your policyholders through the Social Security maze, making sure they get all the benefits they're entitled to. The reaction? "Over half the companies said I was full of it. The others scratched their heads and said, Well, we don't know what to think. They ended up giving it a shot.

"It was really the creation of a new industry," concludes Allsup, "a nationwide, private service, without attorneys. It's like an H&R Block concept: we do the groundwork and serve as liaison between the government and the individual. We ourselves have more than 50 employees now, but in addition to that the insurance companies are hiring people to pay attention to Social Security, which they never did before. And we've got a lot of little competitors springing up."

WHAT'S STRIKING ABOUT the *Inc.* 500 isn't just the new products or the new niches; after all, a lot of companies hit on One Big Idea and parlay it into fast growth. Rather, it's that so many of these entrepreneurs have a knack for focusing on what customers need, not just what their own company happens to be selling at the time.

The result: companies that seem to move almost effortlessly from one area of growth to another. They integrate backward or forward, then turn their ventures into growing businesses in their own right. They spin off ancillary products no one else has thought of. They take on jobs outside their normal line of business—but always in attempts to make their core business healthier. It's diversification, but diversification that has little to do with conglomerate-style portfolio management.

Most of the time, for example, it's no news when a business decides to move up or down the production chain, adding, say, manufacturing or retailing capacity. But an *Inc.* 500 company such as Steadfast (#469), in Chelsea, Mass., doesn't stop there.

Steadfast's original product was a steel collar surrounding a car's steering column and ignition lock; the collar prevents a thief from popping the lock and hot-wiring the car. It caught on with rental-car companies, among other customers, and Steadfast grew. Then, when the two brothers who ran Steadfast's metal-stamping supplier decided to retire, Steadfast bought their business too. It was "an operational necessity," as chief financial officer Jim Fuller dryly puts it.

But Fuller and partner Mitko Zagoroff made a virtue of that necessity. Hiring some seasoned production managers away from General Electric, they turned the metalworking facility into a high-quality supplier of aircraft parts and other precision stampings. Today about 40% of Steadfast's revenues are from external stampings sales, up from 15% a few years ago, and the company's growth rate is effectively compounded. Steadfast, meanwhile, is in the process of developing other proprietary products to take advan-

tage of its new capabilities, in hopes of compounding its growth rate once again.

Similarly, it's hardly startling when a manufacturer sells off its waste products. But what about a company that sees those products as yet another opportunity for growth? Golden Cheese Co. of California (#13), in Corona, makes a line of commodity and specialty cheeses, and has elbowed its way into a statewide market previously dominated by midwestern manufacturers. But fully 20% of its revenues this year will come from products other than cheese.

"When you make cheese out of milk," explains CEO David Wooten, "you're left with whey-protein concentrate. We take that and make it into a 75%-protein food additive. Until recently we were the only ones doing it in this country, and even now we produce maybe 10% of the world's supply. What's left after you take out the whey protein is lactose and milk salts; we ferment these into ethanol. Some of that is used as a fuel additive, and we also have developed an industrial grade, used in cosmetics and pharmaceuticals."

Back when conglomeration was in fashion, companies diversified far and wide, hoping to protect themselves from cyclical downturns and other risks to their core businesses. As the marketplace grew more competitive, they found they couldn't manage all their far-flung ventures, and they were better off sticking to their knitting. *Inc.* 500–style diversification, by contrast, never takes a business very far from its central expertise. Steadfast produces metal-stamped parts for itself and for others. Golden produces cheese and its by-products. But both have learned to create new markets and bring in new revenues.

Often, indeed, a 500 company's real business seems to lie in what it knows rather than what it does, and branching out is not only easy but natural. RHS Fertilizing/Spraying Systems (#465), for instance, began life as a tiny spare-parts distributor, selling components for fertilizing systems to fertilizer and chemical retailers. But founder Rick Heiniger could see that the marketplace was opening up new opportunities. Fewer farmers were applying their own fertilizer and chemicals; more were hiring experts to do the job for them. The experts needed more durable and sophisticated equipment than a traditional tractor-pulled applicator.

Heiniger came up with some designs, bought a small metal-fabricating shop in Hiawatha, Kans., and began turning out customized Ford trucks—equipped with tanks, specially developed sprayer booms, electronic controls, even a patented sonar system that keeps the booms at precise heights over the ground on uneven terrain. No Farmbelt slump for Heiniger, who's now selling a couple of million dollars' worth of truck systems every year. Nor is he letting any corn grow under his feet. Realizing that the evolving industry gave him the opportunity to create still another market—to capitalize on the new competition, in effect—he's selling his lightweight booms and other products to other sprayer manufacturers.

The granddaddy of such expertise-based diversifiers has to be Pioneer Pipe (#93), which zoomed from a scant $500,000 in revenues five years ago to nearly $16 million last year. CEO Dave Archer chuckles as he describes his company's trajectory from business to business: first it was pipe fabrication, then mechanical contracting, then contract maintenance work, then steel erection, then general construction, even a little residential and commercial plumbing.

Many of the *Inc.* 500 entrepreneurs have a knack for focusing on what customers need, not just what their own company happens to be selling at the time.

Aimless opportunism? Nope. What ties all those businesses together is the CEO's expertise in hiring specialized, highly skilled union workers and deploying them exactly when and where they're needed. Archer, a former business manager for the pipe fitters' union, employs union pipe fitters, ironworkers, carpenters, welders, and so on. To get started, he began fabricating big pipe assemblies for chemical companies such as Du Pont and American Cyanamid.

But diversification seemed only natural to someone with Archer's expertise. Mechanical construction? "We were already on bid-and-inquiry lists to fabricate the pipe. And we'd have people asking, 'Did you ever consider installing it as well?' Most journeyman pipe fitters have done that kind of work, so we had the knowledge." Maintenance? The building-trades unions had recently agreed on a standard facilities-maintenance contract offering companies 90% of standard rates and the assurance that no local union demands would interfere with the work. "We were one of the first contractors to use that agreement in the area."

Gradually, Archer realized his skilled employees and managers could do nearly anything in their field. He bid on and won a job to build a bank in Marietta, Ohio. He got a contract to disassemble a plant in Stamford, Conn. "We do jobs a lot of pipe fabricators would walk away from," he says. "We once assembled 13 or 14 tractor-trailer loads of 36-inch plastic pipe and sent it to Kansas for B. F. Goodrich. It took us six or eight weeks.

"We don't usually work with plastic pipe. But if a guy says, Can you do this? my instinct is always to say yes. Make him feel positive. It gets you one step closer to being that guy's first call."

FOR ALL THE DIFFERENCES between the tightly focused companies and the diversifiers, there's one big similarity between them and one big payoff from the market-creating strategies they pursue. Notice anything unusual about all those examples? *Not one of the companies has much competition.* Other businesses might try to outsmart or outflank competitors. *Inc.* 500 companies, more often than not, maneuver themselves into a position where they don't really have any.

One Big Idea market creators such as BioGenex or Allsup or Gateway leave the competition behind almost from the beginning. BioGenex and Allsup were selling their wares before anyone else even knew about the business. Gateway wasn't first off the mark, but it didn't take long to outstrip competitors in its one narrow niche. How many companies can sell only through Gateway's channel and for as little as Gateway can?

The diversifiers, similarly, elbow their way into enough niches so that would-be competitors have a built-in disadvantage. Golden Cheese faces plenty of competition in the cheese business but less in whey-protein concentrate. RHS is in distribution, systems assembly, and specialty manufacturing. And though there are plenty of pipe fabricators and contractors in the Ohio Valley region around Marietta, how many can do everything that Pioneer does? "The competition is fierce," says Archer, "union and nonunion alike. But we've tried to have the flexibility to put together whatever kind of package a guy needs. Staying flexible is what's enabled us to carve out a niche."

In the end, that may be the best explanation for why companies such as Dave Archer's or Rick Heiniger's or Ted Waitt's find themselves on the *Inc.* 500—and why some companies, indeed, seem to make the list year after year. Whether they have a single great idea or several pretty good ones, these CEOs have steered their companies into what amounts to a private segment of the marketplace. It's private because they themselves have created it.

Anyone who does that will find fast growth—*Inc.* 500 growth—hard to avoid. ❑

THE 500 QUIZ

What sort of company grows an average of 1,600% in sales over five years?

▪

In what industries or areas of the country are you most likely to find them?

▪

What happens to profits in a fast-growth business?

▪

For that matter, what happens to the *founders*?

▪

When push comes to shove, how much do you really know about the dynamics of growth?

▪

Try this quiz about the *Inc.* 500, America's growth leaders, and turn the page to find the answers

BY
MARTHA E. MANGELSDORF

True or False?

1. Most *Inc.* 500 companies are located in cities with 100,000 or more people.
2. To grow so fast, founders have to give up equity; most of the *Inc.* 500 CEOs who are founders don't own 100% of their companies' stock today.
3. Less than 10% of this year's *Inc.* 500 companies have CEOs who are women.
4. Most *Inc.* 500 companies achieved part of their growth through acquisitions.
5. Less than half of the founders of *Inc.* 500 companies are still the CEOs.
6. Extremely rapid growth is not easily sustainable; as a result, less than one in 10 of this year's class was on the 1989 list.
7. The majority of *Inc.* 500 companies are less than 10 years old.
8. Over the past five years, there has been almost no change in the industry makeup of the companies that get on the *Inc.* 500 list.
9. More than one in four companies on the list are in computer-related industries.
10. Many companies have to sacrifice profitability to grow rapidly; more than one-third of the 1990 *Inc.* 500 didn't make money in 1989.

Multiple Choice

11. Almost all of the states below have had fewer than six companies make the *Inc.* 500 over the nine years we've been compiling the list. Which one of these states is the exception?

a. Alabama	d. Montana	g. South Dakota
b. Maine	e. Nevada	h. West Virginia
c. Mississippi	f. North Dakota	i. Wyoming

12. Which one of these companies never appeared on the *Inc.* 500 or on its predecessor, the 1981 Private 100?

a. Microsoft	c. Federal Express	f. Charles Schwab
b. Lost Arrow (makers of Patagonia clothing)	d. Domino's Pizza	g. The Sharper Image
	e. Oracle	

Extra Credit

If all the *Inc.* 500 companies were spread evenly throughout the United States, there'd be about two for every 1 million people. But growth doesn't work that way. Some places do much, much better than others at yielding fast-growing small companies for this list. Below is a list of the 10 largest consolidated metro areas in the United States. Just for fun, can you guess the order they rank in as entrepreneurial hot spots—in this case measured by the number of 1990 *Inc.* 500 companies per capita?

New York City	Philadelphia	Dallas
Los Angeles	Detroit	Washington, D.C.
Chicago	Boston	San Francisco
Houston		

Hint: Because this is a per-person measure, the size of the city won't affect its rating. Also, consolidated metro areas include many suburbs. The New York City area, for example, includes parts of New Jersey and Connecticut.

PHOTOGRAPHS: H. ARMSTRONG ROBERTS

The Answers

1. FALSE This is a bit of a trick question, however. The vast majority of *Inc.* 500 companies are near such cities, but less than half are in them. That's because suburbs are often where the growth is these days, with some suburbs becoming "edge cities"—new cities that spring up alongside the old ones. For example, there are 12 *Inc.* 500 companies in the Seattle area this year, but only 3 are in Seattle itself. Bellevue, a fast-growing neighboring community that is about one-fifth the size of Seattle, has just as many *Inc.* 500 companies as Seattle does.

2. TRUE Just 26% of the CEOs who were founders told us that they had retained 100% of their company's equity. That is especially true for the fastest-growing companies, which presumably needed capital the most. Only one of the top 20 companies on the list is run by a CEO/founder who still owns 100% of the stock.

3. TRUE Although the number of female *Inc.* 500 CEOs has increased substantially over the nine years we've been compiling the list, women are the sole CEOs of only 6.4% of the companies on the 1990 list. Even if we include companies that have more than one CEO, the proportion rises to only 7.6%. However, those statistics understate women's participation in *Inc.* 500 companies. Some *Inc.* 500 companies are headed by husband-and-wife teams, and the wife often may have some other title. We don't know for precisely how many companies that's the case, but here's one indication: in a survey of last year's *Inc.* 500, 18% of chief executives said their spouse was involved in the company's management.

NUMBER OF INC. 500 COMPANIES WITH WOMEN AS SOLE CEOS

4. FALSE Only 101 of the 500 made acquisitions between 1985 and 1989, and 49 of those companies made only one. Bryant Management, a Houston-based real estate developer, was the most active buyer, with 36 acquisitions.

5. FALSE In part because of the young age of these companies, nearly 90% of the founders are still the CEOs.

6. FALSE Twenty-nine percent of last year's companies made this year's list.

Of the 1989 *Inc.* 500 companies,

2% went public or were acquired

29% made the 1990 *Inc.* 500

35% did not apply or did not qualify for the 1990 *Inc.* 500

34% grew but not enough to make the 1990 *Inc.* 500

7. TRUE Because our list measures percentage—not absolute dollar—growth, it has a strong bias toward young, emerging companies. A company that grows from $200,000 to $2 million will make the 500, while one that grows from $20 million to $100 million won't. As a result, we have many new companies. Although all must be at least five years old, only 90 were founded in 1980 or earlier.

8. FALSE When economic sectors experience extraordinary growth, they are heavily represented on the list. Here's how the representation of three growth industries changed between the 1985 list, which reflects sales growth between 1980 and 1984, and this year's.

	Number of *Inc.* 500 Companies		% Change
	1985	1990	
Health-care related	17	43	153%
Environmental	4	20	400%
Personnel and employment	8	18	125%

Changes on the list also hint at some more subtle emerging trends. Although the samples are too small to mean much by themselves, we're not surprised that in 1985 there were no companies that described their primary business as computer networking, and this year there are 11. Similarly, not even one company on the '85 list specifically targeted the elderly; this year, 6 do. And there weren't any 1985 *Inc.* 500 companies that identified their business niche as health-care cost containment. This year 3 found that a market with fast-growing demand.

9. TRUE Although companies in all sorts of industries—from insurance to oil drilling—made this year's list, it certainly helped to be in the still-fast-growing computer-related fields, which were represented by 137 companies.

10. FALSE Of the 1990 *Inc.* 500 companies, 423 were profitable in 1989, up from 1985, when only 289 of them were in the black.

THE 1990 INC. 500 PROFITABILITY BREAKDOWN

	Number of Companies	
Profit Margin	**1985**	**1989**
16% or more	51	41
11%–15%	33	49
6%–10%	73	108
1%–5%	132	225
Break-even	24	24
Loss	187	53

11. ALABAMA is the state that's out of place here; it has six companies on this year's list alone. Over the nine-year history of the *Inc.* 500, Alabama has been represented by 27 companies, most of them located in and around Birmingham and Huntsville.

12. FEDERAL EXPRESS We were too late: by the time *Inc.* was launched, in 1979, Federal Express was already a public company. However, the firm did make the 1979 *Inc.* 100 list of the fastest-growing small public companies.

Extra Credit

Here's how the cities rank, using 1988 population estimates. Because the sample involved is so small, only substantial differences in the ratings mean much. One illustration: for the New York City area to have as high a rate as the Washington, D.C., area does, it would have to be home to 168 more companies!

INC. 500 COMPANIES PER 1 MILLION PEOPLE

Washington, D.C.	10.7	Dallas	2.1
Boston	6.1	**National average**	**2.0**
San Francisco	5.6	Detroit	1.9
Houston	3.6	Chicago	1.6
Philadelphia	3.4	New York City	1.5
Los Angeles	2.4		

If you were surprised to see D.C. ranked so much higher than the other cities, you're not alone. However, *Inc.*'s 1990 list of the fastest-growing metro areas in the country (see "The Most Entrepreneurial Cities in America," March 1990) did rank D.C. second overall. That study also shows that a higher percentage of young companies are growing rapidly in D.C. than in all but one other city in the country. What's not clear is how long that growth will continue during an era of federal budget crises. ❑

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Francioli Richartz Weiman & Fliss (141)
Franklin International Institute (151)
Frederick Computers Plus (117)
FRS (412)
Full Line Foods (442)
Funeral Directors Life Insurance (457)
Future Domain (187)
Future Now (391)
Gainey Transportation Services (96)
Gale Group (287)
Gareth Stevens (111)
Gateway 2000 (2)
General Transportation Services (407)
Genesis Health Ventures (174)
Gentle Giant Moving (395)
Gerber Alley (311)
GMIS (251)
Golden Cheese Co. of California (13)
Government Technology Services (233)
Grandis Distribution (28)
Grant Wood Specialties (318)
Green Thumb Enterprises (477)
Gupta Technologies (133)
GWA Information Systems (378)
Hancock Information Group (481)
Harmony Schools (453)
H.D. Vest (146)
HealthStaffers (38)
Heritage Windows (150)
Hertzberg Rare Coin Investments (56)
High Five Sportswear (379)
Hillside Coffee (340)
Hi-TECH Cable Connection (137)
Horizon Data (84)
HOT 'n NOW (163)
Hub City Ohio Terminals (384)
Hydraulics Engineering (156)
Hydro Services (484)
Hygienetics (282)
Icon International (20)
IMRS (427)
Industrial Health (331)
Information America (229)
Information Management Associates (355)
Information Packaging (82)
Information Publishing (148)
Innovative Designs (186)
Integrated Systems Development (177)
Interactive Development Environments (58)
Intercredit (284)
International Organic Products (422)
Interstate Insulation of America (375)
Intuit (15)
JAK Construction (454)
Jandel Scientific (492)
Janet Sand & Gravel (184)
JasTech (448)
J.D. Fields & Co. (255)
JJW Construction (228)
Journal of Light Construction (478)
JSA Healthcare (256)
Judicial Arbitration & Mediation (243)
Kapp Construction (272)
KD Kanopy (410)
Kenda Systems (154)
KETIV Technologies (266)
Kingdom Tapes & Electronics (393)
Knight Floor Covering (232)
KSH Systems (400)
Leopardo Construction (424)
Leros Point to Point (409)
LGB (6)
Liant Software (475)
Liberty Technology Center (260)
LINC Group (415)
LiTel Communications (21)
Liuski International (71)
LMB Microcomputers Connecting Point (363)
Logistic Systems Architects (142)
Lone Star RV Sales (450)
Loredan Biomedical (253)
LUGO Construction (274)
McBride & Associates (17)
McDonald Bradley (493)
McGrath Industries (406)
McLean Rentals (452)
Majiq (100)
Management Assistance Corp. of America (250)
Management Information Consulting (381)
Mangano (357)
March-Westin (344)
Marine Shale Processors (121)
Martin-Logan (290)
Matthew Outdoor Advertising (175)
MediCenter (438)
MediQual Systems (285)
MediSense (89)
Melaleuca (37)
Membrane System Specialists (339)
Meridian Instruments (90)
Metcal (188)
Metropolitan Travel (147)
Metters Industries (127)
Miaco (314)
MicroControl Systems (291)
Micro Linear (352)
Micro Technology (193)
Microtest (273)
Microware (470)
Midwest Wood Treating (432)
Mike Madrid (283)
Mil-Con (115)
Mini Computer Software Specialists (390)
M. Lavine Design Workshop (468)
Mobile Technology (169)
Modern Technologies (83)
Morningstar (471)
Mortara Instrument (404)
Mortgage & Financial Personnel Services (191)
Multisoft (183)
Municipal Marketing Services (431)
Myers-Holum (364)
Nantucket (225)
National Data Products (81)
National Rehabilitation Centers (157)
National Safety Associates (22)
National Seminars (234)
National Service (377)
Nationwide Vending Services (476)
NCO Financial Systems (213)
NEO (348)
Network Compatibility Group (182)
Network Information Systems (221)
New England Digital Distribution (494)
New Pig (64)
New York Style Bagel Chip (50)
NHS (443)
Northeast Battery & Alternator (332)
Northgate Computer Systems (10)
Northwest Conduit (435)
Northwest Group (338)
Northwest Pine Products (242)
Northwest Temporary Services (60)
NSS (208)
NYMA (29)
Octocom Systems (9)
Offshore Pipelines (68)
Oldenburg Group (26)
Omni Technical Services (74)
Omnitel (69)
Oncor (429)
Onsite Engineering & Management (30)
Oreman Sales (190)
OSP Consultants (18)
Overland Data (370)
Overseas Telecommunications (80)
Owen Development (52)
Pacific Access Computers (294)
Pacific Precision Laboratories (31)
Painting Systems (264)
Panda Resources (25)
Partnership Group (159)
Pearl's Kitchen (178)
Peer Review Analysis (265)
Penn Property & Casualty (387)
Pentz Design Pattern & Foundry (268)
Performance Technologies (306)
Perimeter Maintenance (170)
Peripheral Land (104)
Personnel Temps (43)
PHARMACO (161)
Phoenix Call Reporting (97)
Pierce Kennedy Hearth (51)
Pioneer Pipe (93)
Plant Technical Services (24)
Plastronics Plus (155)
Plourde Computer Services (204)
Porter McLeod (103)
Potpourri Foundry (238)
Power Resources Operating (132)
PPOM (40)
Prestige Leather Creations (235)
Prima Communications (317)
Prince Street Technologies (403)
Princeton Review of New Jersey, Boston & Pittsburgh (279)
Productive Transportation Services (77)
Professional Business Schools (310)
Professional Salon Concepts (466)
Project Design Systems (214)
Project Development Group (296)
Proteus (259)
Provista Software International (305)
Public Brand Software (95)
Pueblo Broadcasting (120)
PW Paper (189)
Quality Homes (247)
Quintron (244)
RailTex (230)
Raima (179)
RAM Technologies (341)
RANPAC Engineering (192)
RCT International (374)
Recom Technologies (153)
Red Rose Graphics (323)
Red Trolley (426)
Reference Software International (46)
Reliable Cartage (226)
Reserves Network (271)
Resource Conservation Services (136)
Retix (45)
R. Glass Landscape (373)
RHS Fertilizing-Spraying Systems (465)
Rizzo Associates (206)
RJO Enterprises (313)
RMC Research (72)
Rockford (173)
Rockford Industries (172)
Routing Technology Software (319)
RPM Rent-a-Car (215)
Russell Personnel Services (436)
R.W. Lynch (439)
Salem Screen Printers (216)
Sampler Publications (164)
Schnaubelt Shorts (328)
SCIENTECH (118)
S. Cohen & Associates (200)
SDS Development Group (124)
Seatec (324)
Seawood Homes (205)
Secret Identities Merchandising (201)
Securities Service Network (346)
Senior Market Sales (351)
Shawmut Design & Construction (293)
Sierra Amusement (335)
Sigma Construction (160)
SilverEagle Transport (167)
SIR Group (181)
Smith/Crockett (298)
S-Mos Systems (144)
Softcopy (222)
Softmart (224)
Software Alternatives (455)
Soft Warehouse (47)
Software Security (131)
Software 2000 (417)
Software X-Change (479)
Softworks Development (11)
Spectra (278)
Spectrum Human Resource Systems (269)
SRSA (48)
Stafkings of Binghamton (85)
StarPak International (49)
STATISTICA (241)
Steadfast (469)
Step Ahead Investments (101)
Sterling Courier Systems (59)
Stone County Ironworks (252)
Stonyfield Farm (113)
Sun Pharmaceuticals (303)
Sunnder (365)
Sunrise Terrace (385)
Superior Concrete (321)
Super Wash (473)
Supplyline (461)
Surgilase (316)
Synergics (246)
Synetics (125)
Syscomm International (487)
TABRA (440)
Team Building Systems (389)
Team Spirit (347)
TECA (456)
Technical & Management Services (270)
Technology Works (34)
Techstaff (185)
Telebase Systems (462)
Telogy (61)
TEXCOM (108)
T&K Roofing (483)
TMA Technologies (262)
Total Terrain (386)
TPS Consultants (99)
Trailco Leasing (237)
TransAmerica Telemarketing (94)
Transition Dynamics (441)
Traveling Software (41)
Trawick & Associates (102)
Trecom Business Systems (418)
Trend Personnel Resources (67)
Triax Communications (180)
Tri-County Security (212)
Trigen Energy (289)
Trinity Products (123)
Tri-State Publishing & Communications (91)
Turbine Consultants (138)
Type Tech (312)
Unilink Software (320)
Unique Transportation Systems (446)
Unitech of Alaska (55)
Universal Nutrition (54)
USA Heating & Air Conditioning (437)
U.S. Xpress (325)
Victor Business Systems (176)
Viewlogic Systems (76)
Virginia Construction Supply (166)
Vitelic (295)
Vitronix (368)
Wabash National (405)
Walker Richer & Quinn (425)
Wang Associates Public Relations (434)
Welcom Software Technology (139)
Wesson, Taylor, Wells & Associates (211)
West Coast Video (408)
White Pine Software (396)
W.H. Stoller & Associates (362)
Williams Industries (168)
WordPerfect (240)
Wrenn Insurance Agency (171)
wTe (423)
XA Systems (382)
Your Staff (98)

THE 500

	Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	Profit range* '85	No. of employees '89	No. of employees '85	Date founded
1.	**Cogentrix** (1) Charlotte, NC Develops & operates cogeneration facilities	151,681%	$201,869	$133	D	D	359	64	1983
2.	**Gateway 2000** North Sioux City, SD Mfrs. & sells PCs	69,775	70,574	101	C	A	235	2	1985
3.	**CEBCOR** (3) Chicago, IL Provides employee leasing svcs.	39,636	47,683	120	E	E	55	11	1983
4.	**Corporate Express** Aurora, CO Distr. office & computer prods.	24,644	30,683	124	E	F	284	8	1985
5.	**ComputerWare** Palo Alto, CA Sells computer hardware, software, & periph.	21,916	31,923	145	D	D	133	3	1985
6.	**LGB** Chula Vista, CA Mfrs. men's & women's swimwear	19,349	21,783	112	D	F	165	30	1984
7.	**Brooktree** San Diego, CA Mfrs. electr. components for computer graphics	17,244	51,164	295	A	F	420	25	1981
8.	**ATC Services** Atlanta, GA Provides temporary medical help svcs.	15,044	29,379	194	D	F	81	7	1985
9.	**Octocom Systems** Wilmington, MA Mfrs. data comm. systs. for global networks	14,886	19,482	130	C	F	145	3	1984
10.	**Northgate Computer Systems** (58) Eden Praine, MN Mfrs. & sells PCs	13,555	111,559	817	D	D	550	2	1968
11.	**Softworks Development** Menomonee Falls, WI Distr. computer equip.	11,692	12,028	102	D	E	26	3	1984
12.	**Chipcom** Southborough, MA Designs, mfrs., & mkts. networking solutions	11,679	17,080	145	C	F	143	22	1983
13.	**Golden Cheese Co. of California** Corona, CA Mfrs. cheese & other dairy prods.	11,542	125,506	1,078	E	F	225	50	1983
14.	**DUAL & Associates** Arlington, VA Provides support svcs. & contract mfr. to govt.	10,751	17,470	161	D	F	212	8	1983
15.	**Intuit** Menlo Park, CA Automates finan. work for small businesses	10,623	18,658	174	B	F	110	4	1983
16.	**Comprehensive Technologies Int'l** Chantilly, VA Provides military & logistics eng. svcs.	10,619	11,362	106	D	F	186	23	1980
17.	**McBride & Associates** Albuquerque, NM Sells computer hardware, software, & related svcs.	10,514	13,268	125	C	F	37	1	1985
18.	**OSP Consultants** (8) Sterling, VA Provides telecomm., eng., & construction svcs.	10,191	23,567	229	B	A	362	12	1984
19.	**Beta Plastics** Carlstadt, NJ Mfrs. & distr. polyethylene bags	9,183	14,203	153	C	F	85	30	1985
20.	**Icon International** New York, NY Provides domestic & int'l bartering svcs.	9,135	11,451	124	E	F	17	3	1985
21.	**LITel Communications** Worthington, OH Provides long-distance telecomm. svcs.	8,370	197,868	2,336	F	F	684	180	1983
22.	**National Safety Associates** (62) Memphis, TN Mfrs. & distr. water- & air-filtration prods.	8,039	180,767	2,221	B	D	800	50	1969
23.	**Dial-Net** Sioux Falls, SD Mkts. long-distance telephone svcs. & equip.	7,979	27,063	335	C	F	300	15	1985
24.	**Plant Technical Services** Hurst, TX Provides contract eng. & technical svcs.	7,563	8,889	116	D	A	200	4	1985
25.	**Panda Resources** Tulsa, OK Explores & mkts. natural gas & oil	7,341	75,081	1,009	D	F	21	5	1983

*A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

RANK
1
GEORGE LEWIS
Cogentrix

"When I started this company, I had to learn finance at the age of 54. I had to look good in the eyes of all these bright and shiny M.B.A.s."

■

THE COMPANY

Cogentrix is the first company to take the number-one spot on the *Inc.* 500 for two years in a row.

Credit in part the huge leap in revenues the company had from 1985 to 1986—from $133,000 to $17 million—when its cogeneration facilities began full-tilt production of electricity for utilities and steam for manufacturing companies in three North Carolina cities.

Lewis founded Cogentrix on the premises that coal burning can be cleaner than its image and that the supply of coal is more stable than that of oil or gas, a proposition certainly borne out this year.

THE FOUNDER

Lewis was "born and dragged up in the streets of Brooklyn," son of a teacher and a draftsman. He took his street smarts to Con Edison and then two engineering firms before starting his company.

Despite its size, Cogentrix is a family business: Lewis holds 52% of the equity, and the other 48% is held by his three sons, who are managers.

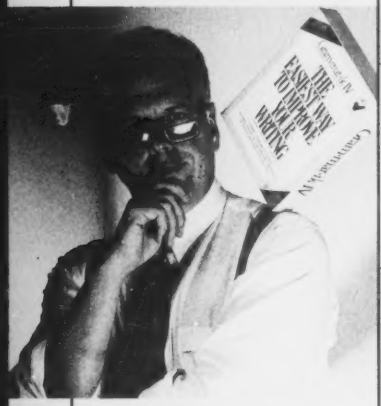
PHOTOGRAPH: CHIP HENDERSON

INC. 500

RANK 46

DONALD EMERY

Reference Software International



"I think I was always fascinated but intimidated by the idea of running my own company. I never had that natural affinity."

■

THE COMPANY

As a marketing professor, Emery encouraged his students to use word processors. "The papers looked nicer," he says, "but there was still incredibly bad writing, grammar, and spelling." So Emery and partner Bruce Wampler founded a company to solve those problems. They first developed a pop-up dictionary for computers; later came a breakthrough program, Grammatik, which flags awkward phrases in text.

"Most people who don't write for a living don't realize that the skill of writing really is in the revision stage," says Emery. "This program makes it easier to do that."

The company's next step: marketing French and German grammar checkers in Europe.

THE FOUNDER

Emery did a stint at R. J. Reynolds before getting a Ph.D. in marketing. In 1975 he began teaching; he's now on sabbatical from San Francisco State University.

"Despite all my education, I am a very, very bad speller," he says.

	Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	Profit range* '85	No. of employees '89	No. of employees '85	Date founded
26.	**Oldenburg Group** (20) Milwaukee, WI Mfrs. industrial prods.	7,243%	$131,219	$1,787	D	C	975	21	1943
27.	**Americom Distributors** Marietta, GA Distr. computer prods. & periph.	7,187	13,699	188	D	F	38	5	1985
28.	**Grandis Distribution** Huntington Beach, CA Distr. computers & related prods.	6,856	8,904	128	D	D	31	3	1983
29.	**NYMA** Greenbelt, MD Provides hardware & software systs.-integ. svcs.	6,764	27,114	395	D	D	300	15	1978
30.	**Onsite Engineering & Management** Norcross, GA Provides technical svcs. to nuclear-power industry	6,717	7,430	109	C	F	78	1	1985
31.	**Pacific Precision Laboratories** Chatsworth, CA Mfrs. measuring & testing equip.	6,644	8,835	131	C	E	80	5	1985
32.	**Coverall North America** San Diego, CA Operates commercial & industr. cleaning franchise	6,632	8,213	122	C	B	64	7	1985
33.	**Abacus** San Francisco, CA Provides computer training & consulting svcs.	6,199	10,015	159	D	F	40	14	1971
34.	**Technology Works** Austin, TX Mfrs. & sells computer memory	6,152	10,065	161	D	F	73	5	1983
35.	**Cita Technologies** Emmaus, PA Sells computer hardware & periph.	5,716	9,248	159	D	E	35	3	1985
36.	**Berne/Monroe Groups** New Braunfels, TX Operates fast-food restaurants	5,620	19,678	344	F	D	400	10	1985
37.	**Melaleuca** Idaho Falls, ID Mkts. pharmaceuticals & personal-care prods.	5,510	16,942	302	A	F	67	7	1985
38.	**HealthStaffers** (98) Chicago, IL Provides nursing svcs. to hospitals	5,164	11,001	209	A	F	300	6	1977
39.	**Ehman** Evanston, WY Mfrs. disk drives & computer keyboards	5,115	6,101	117	D	F	129	13	1985
40.	**PPOM** (76) Southfield, MI Provides health-care svcs.	4,968	5,575	110	D	F	60	6	1982
41.	**Traveling Software** (30) Bothell, WA Develops microcomputer software	4,911	10,873	217	C	F	90	12	1983
42.	**American Biodyne** South San Francisco, CA Provides mental-health treatment programs	4,820	10,677	217	F	F	350	40	1985
43.	**Personnel Temps** Spartanburg, SC Provides temporary-help svcs.	4,725	5,838	121	D	F	27	2	1985
44.	**American Technical Resources** Annandale, VA Provides contract professional svcs.	4,654	10,648	224	D	F	165	3	1985
45.	**Retix** Santa Monica, CA Designs, mfrs., & mkts. computer systs. & software	4,495	35,890	781	C	F	340	10	1985
46.	**Reference Software Int'l** San Francisco, CA Develops & publishes writing-improvement software	4,479	5,174	113	B	F	43	6	1985
47.	**Soft Warehouse** Dallas, TX Sells microcomputer hardware, software, & periph.	4,413	137,458	3,046	D	D	750	8	1984
48.	**SRSA** Arlington, VA Provides aviation training svcs.	4,357	17,963	403	C	A	350	5	1983
49.	**StarPak International** (90) Denver, CO Provides software svcs.	4,315	4,989	113	D	D	59	1	1979
50.	**New York Style Bagel Chip** Skillman, NJ Mfrs. bagel chips & pita chips	4,305	12,423	282	C	D	225	3	1985
51.	**Pierce Kennedy Hearth** Chester, CT Provides mgmt. svcs.	4,297	4,397	100	D	F	125	18	1984
52.	**Owen Development** Monrovia, CA Provides general-contracting svcs.	4,245	20,944	482	D	B	12	5	1983
53.	**Attachmate** Bellevue, WA Develops software connectivity prods.	4,235	56,438	1,302	A	C	221	11	1984
54.	**Universal Nutrition** Norcross, GA Sells health prods. by mail order	4,200	10,320	240	C	C	1	1	1981
55.	**Unitech of Alaska** Anchorage, AK Sells & distr. environmental equip.	4,174	8,890	208	A	A	22	4	1985
56.	**Hertzberg Rare Coin Investments** (29) Tacoma, WA Buys & sells rare U.S. coins	4,137	13,558	320	C	C	6	1	1984
57.	**Complete Business Solutions** Farmington Hills, MI Provides software consulting svcs.	4,111	18,192	432	C	C	195	40	1985
58.	**Interactive Dvlpmt. Environments** San Francisco, CA Develops & sells CASE software	4,001	9,802	239	F	A	102	4	1983
59.	**Sterling Courier Systems** Herndon, VA Provides same-day air-courier svcs.	3,780	4,190	108	D	F	24	2	1985
60.	**Northwest Temporary Services** Portland, OR Provides temporary-help svcs.	3,757	6,519	169	D	F	40	4	1985

*A: 16% or more. B: 11% to 15%. C: 6% to 10%. D: 1% to 5%. E: Break-even. F: Loss

PHOTOGRAPH: CHRISTOPHER SPRINGMANN

INC. 500

RANK 89

RON ZWANZIGER

MediSense

"We were close to running out of cash a number of times. Compared with that, nothing today is very difficult."

■

THE COMPANY

When Zwanziger and three other students at Harvard Business School founded their biotechnology company, in 1981, their strategy was to invent and tinker with 10 products. Surely, they figured, one would hit big.

In 1984 MediSense began honing in on one product—biosensors used by diabetics to read their blood-sugar levels. Then the money began pouring in: $60 million from investors so far, used in large part to develop an extensive international direct-sales force. Revenues from the user-friendly line hit $30 million last year, up from just $2 million two years previously. Zwanziger plans to take MediSense public in early 1991.

"A company with a sales force worldwide is a better company in the long run," he says. "And we make more money this way."

THE FOUNDER

Zwanziger grew up in Cyprus, then was educated in Great Britain. He received an engineering degree from Imperial College at London University before attending Harvard Business School.

	Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	'85	No. of employees '89	'85	Date founded
61.	**Telogy** Redwood City, CA Sells & leases telecomm. test equip.	3,732%	$39,159	$1,022	D	A	125	65	1984
62.	**Economy Maintenance Supply** Alexandria, VA Distr. specialty items	3,610	3,970	107	D	C	30	2	1985
63.	**American Information Systems** Tamarac, FL Installs, svcs., & maintains telecomm. systs.	3,599	15,500	419	A	A	166	11	1976
64.	**New Pig** Tipton, PA Mfrs., distr., & sells industrial absorbents	3,595	13,191	357	D	F	160	5	1985
65.	**American Central Gas** (12) Tulsa, OK Gathers, processes, & mkts. natural gas	3,516	416,275	11,511	D	D	113	13	1983
66.	**Asymtek** Carlsbad, CA Mfrs. automated fluid-dispensing systs.	3,514	5,385	149	B	F	50	6	1983
67.	**Trend Personnel Resources** Cincinnati, OH Provides temporary-& permanent-help svcs.	3,453	7,390	208	C	F	26	3	1985
68.	**Offshore Pipelines** Houston, TX Provides marine construction svcs.	3,436	103,924	2,937	D	F	600	75	1984
69.	**Omnitel** Fremont, CA Mfrs. modems & other computer prods.	3,424	13,392	380	F	F	70	37	1984
70.	**Alta Petens** Boone, NC Provides physical-, speech-, & occup.-therapy svcs.	3,407	12,135	346	A	A	220	5	1982
71.	**Liuski International** (5) Melville, NY Distr. computers & related equip.	3,379	88,564	2,546	D	D	250	8	1984
72.	**RMC Research** Hampton, NH Provides research & training svcs.	3,351	4,072	118	D	D	47	14	1970
73.	**C.H. Love & Co.** Abilene, TX Develops software for lawn-care industry	3,201	11,983	363	F	D	35	2	1981
74.	**Omni Technical Services** Uniondale, NY Operates & manages waste-mgmt. facilities	3,109	3,658	114	F	D	13	1	1985
75.	**AMBAR** Lafayette, LA Provides drilling svcs. to oil industry	3,052	15,100	479	C	D	70	4	1980
76.	**Viewlogic Systems** Marlboro, MA Develops, sells, & mkts. CAE software	3,029	19,527	624	C	F	144	40	1984
77.	**Productive Transportation Services** Tonawanda, NY Provides transportation brokerage svcs.	3,023	8,837	283	D	D	18	4	1983
78.	**Cencom Cable Associates** (60) Chesterfield, MO Manages cable-TV systs.	2,998	59,142	1,909	F	F	950	435	1982
79.	**Delta Technology International** Eau Claire, WI Develops & mkts. software utility programs	2,966	3,342	109	A	B	27	3	1983
80.	**Overseas Telecommunications** Alexandria, VA Mfrs. satellite & fiber-optics telecomm.	2,953	14,897	488	D	F	73	7	1984
81.	**National Data Products** (190) Clearwater, FL Resells value-added computer equip.	2,938	14,916	491	F	F	80	5	1982
82.	**Information Packaging** Macedon, NY Mfrs. packaging for computer diskettes	2,896	6,712	224	D	F	46	7	1985
83.	**Modern Technologies** (53) Dayton, OH Provides technical svcs.	2,885	10,060	337	C	B	225	15	1984
84.	**Horizon Data** (87) Reston, VA Provides systs.-integ. svcs.	2,875	7,407	249	E	F	37	2	1983
85.	**Staffings of Binghamton** Binghamton, NY Provides personnel consulting svcs.	2,864	11,410	385	D	D	52	15	1962
86.	**Executive Software** (33) Glendale, CA Develops & mkts. systs. software	2,820	8,175	280	B	D	89	4	1981
87.	**Allen-Ashley** Evergreen, AL Mfrs. vehicles for the elderly & the handicapped	2,816	3,762	129	D	F	45	10	1983
88.	**California School Furnishings** Fresno, CA Sells school, office, & church furnishings	2,795	5,268	182	D	A	33	2	1985
89.	**MediSense** Cambridge, MA Mfrs. & mkts. biomedical prods.	2,786	30,216	1,047	F	F	521	100	1981
90.	**Meridian Instruments** Okemos, MI Mfrs. & sells medical instruments	2,778	4,029	140	C	F	32	11	1981
91.	**Tri-State Publishing & Commun.** Bala Cynwyd, PA Publishes real estate guides & mkt. svcs.	2,758	2,887	101	A	F	15	3	1985
92.	**Curry Industries** Kansas City, MO Provides transportation brokerage svcs.	2,750	3,363	118	D	D	7	1	1985
93.	**Pioneer Pipe** Marietta, OH Fabricates pipe & steel	2,684	15,756	566	C	D	250	15	1981
94.	**TransAmerica Telemarketing** Washington, DC Provides telemkt. & direct-mail svcs.	2,679	5,863	211	D	F	102	20	1985
95.	**Public Brand Software** Indianapolis, IN Distr. shareware computer software	2,678	3,056	110	A	C	16	1	1985

*A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

PHOTOGRAPH: KINDRA CLINEFF

RANK

108

CLEMON H. WESLEY

TEXCOM

"Schools teach African Americans to go out and get 8:00-to-5:00 jobs. Very little suggests to them that they might want to start their own businesses."

■

THE COMPANY

TEXCOM, a telecommunications and engineering services firm, takes advantage of the 25 years Wesley spent in the army by pursuing contracting work for the military. Now, with the changing political climate, the company pursues more private-sector jobs. "The whole world is retrenching," says Wesley, "and in this marketplace people are doing whatever it takes to win jobs."

THE FOUNDER

Wesley's parents were sharecroppers in Texas. He went into the army in 1957, rising from second lieutenant to colonel; he also got an M.S. in communications and a law degree. After leaving the army, he started his company in his basement in 1982.

Today Wesley is president of the National Business League of Southern Maryland and spends time on mentoring programs for the minority community: "I have business mixers, training programs—all designed to try to get minority businesses into the mainstream of this economy."

Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	Profit range* '85	No. of employees '89	No. of employees '85	Date founded
96. Gainey Transportation Svcs. (11) Grand Rapids, MI Provides long-distance trucking svcs.	2,642%	$21,583	$787	C	C	265	13	1984
97. Phoenix Call Reporting Lincoln Park, NJ Provides sales automation software	2,607	2,788	103	A	F	27	7	1985
98. Your Staff (472) Woodland Hills, CA Provides employee leasing & human resources svcs.	2,606	29,851	1,103	C	F	33	2	1979
99. TPS Consultants Redding, CA Provides temporary- & permanent-help svcs.	2,570	4,192	157	D	F	11	5	1980
100. Majiq Redmond, WA Develops production-mgmt. software systs.	2,556	8,073	304	A	B	29	5	1980
101. Step Ahead Investments (79) West Sacramento, CA Operates retail variety stores	2,531	10,680	406	D	F	164	8	1983
102. Trawick & Associates Bethesda, MD Provides consulting & software dvlpmt. svcs.	2,494	2,646	102	D	C	70	6	1985
103. Porter McLeod Denver, CO Provides general-contracting svcs.	2,487	22,272	861	D	D	170	5	1985
104. Peripheral Land Fremont, CA Integrates mass-storage prods. for microcomputers	2,477	12,523	486	D	F	65	3	1985
105. Boat Sales Indianapolis, IN Sells boats, motors, & trailers	2,454	8,172	320	D	D	35	5	1984
106. Chicos (69) Fort Myers, FL Sells women's apparel	2,439	11,732	462	B	C	215	9	1983
107. Claren Business Centers (154) Exton, PA Sells computers	2,419	56,234	2,232	D	E	50	35	1982
108. TEXCOM Lanham, MD Provides telecomm. & eng. svcs.	2,419	15,392	611	D	D	120	30	1982
109. Dawn VME Products Fremont, CA Mfrs. & designs computer boards & components	2,415	5,408	215	C	C	40	4	1985
110. AstroPower Newark, DE Develops photovoltaic solar cells & related prods.	2,396	3,619	145	B	F	74	19	1983
111. Gareth Stevens Milwaukee, WI Publishes children's books	2,393	7,304	293	D	F	130	15	1983
112. Airflow Systems Dallas, TX Mfrs. air-filtration equip.	2,387	2,711	109	D	F	27	1	1985
113. Stonyfield Farm Londonderry, NH Mfrs. & mkts. yogurt & frozen yogurt	2,360	3,567	145	F	F	43	3	1982
114. Banyan Systems Westboro, MA Mfrs. network computing prods.	2,346	79,966	3,269	D	F	480	77	1983
115. Mil-Con Orange Park, FL Provides constr. svcs. on defense contracts	2,342	13,432	550	D	F	103	20	1984
116. Citicam Video Services (120) New York, NY Supplies production svcs.	2,310	2,796	116	A	A	14	2	1984
117. Frederick Computers Plus Frederick, MD Sells & svcs. wide-area networks & LANs	2,309	62,935	2,612	E	C	150	11	1984
118. SCIENTECH Idaho Falls, ID Provides eng. & mgmt. svcs.	2,309	9,442	392	C	C	100	13	1983
119. Artisoft (39) Tucson, AZ Develops & mkts. LAN hardware & software	2,275	21,187	892	A	C	95	2	1982
120. Pueblo Broadcasting Houston, TX Provides Spanish-language TV programming	2,252	6,397	272	C	F	68	1	1984
121. Marine Shale Processors St. Rose, LA Decontaminates hazardous waste	2,249	41,639	1,773	B	F	340	40	1984
122. Eurostar Los Angeles, CA Sells & distr. athletic shoes	2,243	43,694	1,865	D	D	78	5	1984
123. Trinity Products (74) Linden, NJ Mfrs. & distr. radio-control-model auto parts	2,237	10,585	453	D	D	28	2	1983
124. SDS Development Group Landover, MD Develops real estate	2,213	103,318	4,467	D	D	225	32	1972
125. Synetics Wakefield, MA Provides high-tech systs.-eng. svcs.	2,197	18,420	802	D	D	222	14	1984
126. ExecuTrain Atlanta, GA Provides computer training for businesspeople	2,180	4,743	208	F	F	56	8	1984
127. Metters Industries McLean, VA Provides eng. & technical-support svcs.	2,153	10,072	447	D	D	175	6	1981
128. Discas Waterbury, CT Mfrs. & distr. plastic & rubber compounds	2,148	2,742	122	C	C	9	2	1983
129. American Fashion Jewels South San Francisco, CA Sells costume jewelry	2,145	7,230	322	D	C	100	2	1984
130. Diversified Technology & Svcs. of Va. Hampton, VA Provides contract administrative & mgmt. svcs.	2,145	3,255	145	D	D	150	10	1982

*A: 16% or more; B: 11% to 15%; C: 6% to 10%; D: 1% to 5%; E: Break-even; F: Loss

PHOTOGRAPH: CHARLES FREEMAN

INC. 500

RANK 136

WILLIAM GINN

Resource Conservation Services

"I do sometimes miss the informality of the early years, working on dead reckoning—the nautical term for navigating by the seat of your pants."

■

THE COMPANY

Ginn was operating a farm in Maine part-time and asked a paper company if he could have some of its wood ash for fertilizer. The company, which had been paying to dump the ash, asked if Ginn wanted all 40,000 tons. Soon he arranged for other farmers to take the ash as well; eventually he had a company that expanded into commercial recycling, composting, and wastewater treatment.

"In truth," says Ginn, "I think we're all astonished at how well RCS has performed."

THE FOUNDER

Ginn spent 10 years at the Maine Audubon Society, 6 as executive director, taking the budget from $90,000 to $1.5 million. "I think of Audubon as my first start-up."

Farming remains Ginn's first love: "It's very grounding to drive a tractor or rototill a garden or plant a crop. It's an important touchstone with the earth. I don't pretend I'm a great farmer, but it's something I enjoy."

	Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	Profit range* '85	No. of employees '89	No. of employees '85	Date founded
131.	**Software Security** Stamford, CT Mfrs. encryption devices	2,144%	$3,433	$153	B	B	25	10	1983
132.	**Power Resources Operating** (158) Canton, OH Drills for gas & oil; mkts. natural gas	2,143	13,904	620	D	F	9	10	1981
133.	**Gupta Technologies** Menlo Park, CA Develops & distr. database-mgmt. systs.	2,091	7,603	347	D	D	82	5	1984
134.	**Comsys Technical Services** (381) Rockville, MD Provides software programming & eng. svcs.	2,073	20,495	943	D	D	315	38	1979
135.	**ATV** Cleveland, OH Distr. computers & point-of-sale equip.	2,068	13,180	608	D	F	41	11	1980
136.	**Resource Conservation Svcs.** (157) Yarmouth, ME Provides recycling-mgmt. & consulting svcs.	2,047	6,613	308	D	D	73	10	1983
137.	**HI-TECH Cable Connection** Reading, PA Distr. specialty value-added electronic prods.	2,044	8,298	387	D	F	35	3	1985
138.	**Turbine Consultants** Milwaukee, WI Provides technical & repair svcs. to utility cos.	2,029	3,258	153	A	F	11	2	1984
139.	**Welcom Software Technology** (47) Houston, TX Mfrs. project-mgmt. software	2,021	6,067	286	B	B	60	4	1984
140.	**Florida Fulfillment** (189) Miami, FL Provides telemkt. & database-mgmt. svcs.	2,012	8,785	416	C	C	115	15	1982
141.	**FRWF** (145) Parsippany, NJ Provides advertising & PR svcs.	2,009	12,189	578	A	C	14	5	1980
142.	**Logistic Systems Architects** (25) Sacramento, CA Provides logistics-eng. svcs.	2,000	21,340	1,016	E	A	307	40	1983
143.	**De-Tec Anesthesia Detection Svcs.** Syracuse, NY Sells & svcs. anesthesia equip.	1,989	2,570	123	B	D	6	2	1981
144.	**S-Mos Systems** San Jose, CA Mkts. & sells semiconductors	1,978	122,901	5,915	D	F	210	35	1983
145.	**Classic Business Forms & Envelopes** Houston, TX Distr. business forms	1,957	2,078	101	C	B	14	4	1984
146.	**H.D. Vest** Irving, TX Provides finan. prods. & svcs.	1,956	11,881	578	F	F	70	5	1983
147.	**Metropolitan Travel** Seattle, WA Provides travel svcs.	1,954	10,332	503	D	F	24	4	1985
148.	**Information Publishing** Houston, TX Provides publishing & trade-show-mgmt. svcs.	1,954	2,711	132	C	E	22	2	1985
149.	**American Arms** North Kansas City, MO Imports & mfrs. sporting firearms	1,948	4,895	239	D	A	21	4	1982
150.	**Heritage Windows** Monroe, NC Mfrs. decorative windows	1,939	7,157	351	C	C	132	13	1984
151.	**Franklin International Institute** Salt Lake City, UT Produces life-planning seminars & prods.	1,922	30,053	1,486	D	F	418	21	1984
152.	**ECCS** (110) Tinton Falls, NJ Sells computer systs. & periph.	1,921	29,511	1,460	D	D	105	25	1980
153.	**Recom Technologies** San Jose, CA Develops eng. & information systs.	1,915	6,930	344	C	D	94	5	1980
154.	**Kenda Systems** Salem, NH Provides temporary computer-programming svcs.	1,914	11,521	572	F	D	88	4	1984
155.	**Plastronics Plus** East Troy, WI Custom plastic injection molder	1,909	3,014	150	D	D	65	5	1985
156.	**Hydraulics Engineering** Orange Park, FL Mfrs. & distr. hydraulic hose assemblies	1,902	13,916	695	F	F	205	30	1983
157.	**National Rehabilitation Centers** Brentwood, TN Operates outpatient medical rehab. centers	1,893	9,708	487	F	F	160	30	1985
158.	**Comlink Network Services** Auburn, MA Provides computer & comm. networking svcs.	1,887	4,650	234	D	F	75	9	1985
159.	**Partnership Group** Lansdale, PA Provides child- & elder-care referral svcs.	1,882	2,834	143	C	F	41	8	1982
160.	**Sigma Construction** Fayetteville, NC Provides general-contracting svcs.	1,870	7,880	400	D	C	36	12	1984
161.	**PHARMACO** Austin, TX Provides clinical testing of pharmaceuticals	1,854	13,030	667	C	C	194	30	1983
162.	**Apex Computer** Redmond, WA Serves workstation users	1,849	11,480	589	B	A	97	5	1985
163.	**HOT 'n NOW** Kalamazoo, MI Operates fast-food restaurants	1,849	14,325	735	B	C	491	49	1984
164.	**Sampler Publications** (27) St. Charles, IL Provides publishing svcs.	1,842	9,185	473	B	C	70	5	1984
165.	**Essential Amenities** Fairfield, NJ Sells, mkts., & mfrs. soaps & shampoos	1,838	8,293	428	C	C	40	2	1985

*A: 16% or more; B: 11% to 15%; C: 6% to 10%; D: 1% to 5%; E: Break-even; F: Loss

PHOTOGRAPH: KINDRA CLINEFF

INC. 500

RANK 184

JANET BIRNBAUM

Janet Sand & Gravel

"Our business is not small, but it's not real large yet. It needs expertise, possibly beyond my own. That's a difficult situation because I don't want to make a mistake."

■

THE COMPANY

The company, Birnbaum quickly emphasizes, is basic: it produces and places asphalt. In the early days the jobs were mostly driveways and parking lots. Today the company gets state, county, and municipal road work.

Its biggest obstacle? Birnbaum says it's the size and stability of competing companies. "I've tried to diversify to things like putting underground water mains in, to allow me to not be so dependent on the road work. But to be honest, I'm not sure I've really found a new niche."

THE FOUNDER

Birnbaum grew up on a farm in Birch Run, Mich., helping with the milking and other chores. "I grew up with the mentality that you just did what had to get done." After high school she worked as a secretary at a bank, then as an office manager at a small telephone company. "But while I worked there," she recalls, "I always had visions of getting out of the position of being a subordinate."

Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	Profit range* '85	No. of employees '89	No. of employees '85	Date founded
166. Virginia Construction Supply Roanoke, VA Supplies construction materials	1,832%	$3,787	$196	D	F	15	2	1985
167. SilverEagle Transport Jacksonville, FL Provides general commodities trucking svcs.	1,829	23,935	1,241	F	F	305	24	1984
168. Williams Industries Houston, TX Provides general-contracting svcs.	1,825	33,154	1,722	D	D	50	20	1979
169. Mobile Technology (64) Los Angeles, CA Provides medical, diagnostic, & treatment svcs.	1,815	76,247	3,982	D	D	440	34	1983
170. Perimeter Maintenance Atlanta, GA Provides contract janitorial svcs.	1,813	4,342	227	D	C	250	3	1985
171. Wrenn Insurance Agency Lenexa, KS Sells commercial & personal insurance	1,809	8,457	443	B	D	86	7	1896
172. Rockford Industries Santa Ana, CA Leases medical equip.	1,808	16,082	843	D	D	31	4	1984
173. Rockford Tempe, AZ Mfrs. car- & home-audio electronics	1,796	40,847	2,154	C	D	524	27	1980
174. Genesis Health Ventures Kennett Square, PA Provides geriatric health svcs.	1,794	113,738	6,005	D	F	2,900	780	1985
175. Matthew Outdoor Advertising Parsippany, NJ Owns outdoor-advertising billboards	1,785	7,483	397	A	A	25	1	1982
176. Victor Business Systems Memphis, TN Sells office supplies & furn. to health-care cos.	1,779	1,917	102	D	F	23	3	1985
177. Integrated Systems Development Holland, MI Integrates large-scale computer systs.	1,762	2,458	132	F	A	34	7	1985
178. Pearl's Kitchen (220) Detroit, MI Distr. full-line food svcs.	1,749	4,604	249	F	D	9	5	1979
179. Raima Bellevue, WA Designs & mkts. database & utilities software	1,726	3,981	218	D	B	43	5	1982
180. Triax Communications Denver, CO Operates cable network	1,725	66,151	3,625	F	F	592	62	1982
181. SIR Group (200) Dallas, TX Provides insurance sales & svcs.	1,703	19,907	1,104	C	D	75	16	1983
182. Network Compatibility Group Columbus, OH Develops LAN equip.	1,688	2,986	167	B	C	14	2	1985
183. Multisoft Beaverton, OR Develops & mkts. PC utility software	1,687	3,180	178	A	F	20	1	1982
184. Janet Sand & Gravel (89) Midland, MI Produces asphalt & sells gravel	1,686	3,215	180	D	A	36	17	1983
185. Techstaff Milwaukee, WI Provides contract eng. svcs.	1,669	8,333	471	B	C	23	5	1985
186. Innovative Designs Roseville, MI Distr. aftermarket body parts	1,665	4,590	260	D	C	13	3	1982
187. Future Domain Irvine, CA Mfrs. adapters & software prods. for PCs	1,663	10,205	579	C	F	65	8	1984
188. Metcal Menlo Park, CA Develops proprietary heating technology	1,662	8,633	490	F	F	86	34	1982
189. PW Paper Gaithersburg, MD Distr. paper & office furn.	1,662	3,946	224	C	C	9	3	1985
190. Oreman Sales Kenner, LA Distr. computer hardware, software, & accessories	1,660	36,467	2,072	D	D	35	7	1980
191. Mortgage & Finan. Personnel Svcs. Encino, CA Provides employment svcs. for banking industry	1,658	2,285	130	B	A	5	3	1984
192. RANPAC Engineering Temecula, CA Provides eng., land-planning, & arch. svcs.	1,646	9,902	567	D	D	200	10	1976
193. Micro Technology Anaheim, CA Mfrs. & distr. data-storage & backup systs.	1,624	54,458	3,158	B	D	200	40	1979
194. Dana Innovations San Clemente, CA Mfrs. in-wall speakers & related prods.	1,615	5,935	346	D	F	26	5	1983
195. DSI Insurance Services San Francisco, CA Sells insurance	1,607	4,200	246	A	A	50	5	1985
196. Cape Fear Insulation (115) Wilmington, NC Provides insulation-contracting svcs.	1,601	3,350	197	C	C	85	24	1984
197. Cone Software Laboratory Boothwyn, PA Develops custom software	1,572	1,973	118	C	F	27	2	1983
198. CLONTECH Laboratories Palo Alto, CA Develops genetic-eng. research prods.	1,564	4,109	247	D	D	43	6	1984
199. City Machine Technologies Youngstown, OH Provides elect. & mechanical industrial svcs.	1,555	2,863	173	C	B	49	3	1985
200. S. Cohen & Associates (265) McLean, VA Provides energy- & environmental-consulting svcs.	1,551	5,382	326	D	B	30	4	1981

*A: 16% or more; B: 11% to 15%; C: 6% to 10%; D: 1% to 5%; E: Break-even; F: Loss

PHOTOGRAPH: MIKE DITZ

	Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	'85	No. of employees '89	'85	Date founded
201.	**Secret Identitee Merchandising** Los Angeles, CA Produces advertising specialties	1,547%	$2,157	$131	D	F	13	2	1984
202.	**Control Solutions** Pasadena, TX Resells pest-control, pool, & pet supplies	1,545	2,253	137	C	F	20	4	1985
203.	**Ambitech Engineering** (128) Glen Ellyn, IL Provides construction eng. svcs.	1,544	12,031	732	C	D	180	14	1982
204.	**Plourde Computer Services** San Ramon, CA Develops point-of-sale software	1,539	6,048	369	D	C	43	8	1983
205.	**Seawood Homes** Edmonds, WA Develops & builds single-family houses	1,538	4,864	297	D	F	16	2	1985
206.	**Rizzo Associates** (188) Natick, MA Provides eng.- & environmental-consulting svcs.	1,531	5,563	341	D	D	85	25	1983
207.	**Devon Direct Mkt. & Advertising** (6) Malvern, PA Provides advertising svcs.	1,525	52,099	3,206	C	D	76	8	1983
208.	**NSS** (85) Bedford, NH Supplies branch automation systs. to banks	1,523	16,248	1,001	F	A	67	13	1983
209.	**Carpenter HealthCare Systs.** (31) Maryland Hts., MO Provides health-care mkt. & mgmt. svcs.	1,511	9,536	592	D	F	125	3	1984
210.	**Arnet** (52) Nashville, TN Mfrs. & sells expansion boards for computers	1,510	9,453	587	D	F	56	13	1983
211.	**Wesson, Taylor, Wells & Assoc.** (130) Charlotte, NC Provides computer software & consulting svcs.	1,500	8,095	506	D	F	160	10	1980
212.	**Tri-County Security** Ferndale, MI Provides security & investigation svcs.	1,483	2,739	173	D	F	326	31	1984
213.	**NCO Financial Systems** (245) Blue Bell, PA Collects delinquent & overdue accounts receivable	1,481	2,197	139	B	D	38	3	1926
214.	**Project Design Systems** Arlington, VA Provides eng.-, mgmt.- & computer-consulting svcs.	1,480	2,433	154	F	F	55	10	1985
215.	**RPM Rent-a-Car** (84) Inglewood, CA Rents & sells autos & trucks	1,478	15,843	1,004	E	D	315	5	1982
216.	**Salem Screen Printers** (262) Salem, NH Mfrs. & distr. sportswear	1,475	28,919	1,836	C	D	202	31	1980
217.	**Corrosion Technology** Green Bay, WI Produces corrosion-protection systs. & svcs.	1,472	3,207	204	C	F	16	2	1985
218.	**DIANON Systems** (16) Stratford, CT Provides prods. & data svcs. to physicians	1,470	16,356	1,042	D	F	146	48	1983
219.	**Cambridge Career Products** South Charleston, WV Sells instructional materials by mail order	1,466	3,053	195	D	F	20	9	1980
220.	**Bulk International** (171) Troy, MI Sells candy, nuts, & gifts in bulk	1,465	7,841	501	E	F	57	8	1983
221.	**Network Information Systems** Southfield, MI Provides computer svcs. & facilities-mgmt. svcs.	1,465	4,319	276	E	A	72	9	1984
222.	**Softcopy** Orem, UT Duplicates, assembles, & ships software	1,462	79,684	5,100	A	D	477	35	1984
223.	**Command Systems** Hartford, CT Develops business automation systs.	1,461	3,246	208	D	F	75	10	1985
224.	**Softmart** (23) Exton, PA Resells computer software & periph.	1,460	55,776	3,576	D	F	158	23	1982
225.	**Nantucket** Los Angeles, CA Develops & distr. software	1,456	14,313	920	D	F	150	40	1984
226.	**Reliable Cartage** Bedford Park, IL Provides local trucking svcs.	1,450	2,728	176	D	E	68	4	1976
227.	**Dickens Data Systems** Norcross, GA Mfrs., sells, & distr. periph.	1,440	14,183	921	B	C	62	13	1981
228.	**JJW Construction** Plantation, FL Provides general-contracting svcs.	1,439	42,341	2,752	C	E	240	45	1984
229.	**Information America** (93) Atlanta, GA Provides on-line information for commercial transactions	1,438	10,800	702	D	F	93	25	1982
230.	**RailTex** (464) San Antonio, TX Operates short-line freight railroads	1,438	16,582	1,078	C	C	135	17	1977
231.	**Drennen Forestry Services** Hayden, AL Supplies forestry raw-material prods.	1,437	4,597	299	D	F	18	4	1983
232.	**Knight Floor Covering** Newark, CA Sells & installs floor coverings	1,436	1,705	111	C	C	19	4	1985
233.	**Government Technology Svcs.** (155) Chantilly, VA Resells computer hardware, software, & periph.	1,427	277,740	18,185	D	D	500	87	1983
234.	**National Seminars** Overland Park, KS Provides training & publishes related materials	1,426	30,310	1,986	C	C	150	25	1984
235.	**Prestige Leather Creations** (272) Vernon, CA Mfrs. fashion belts	1,411	19,384	1,283	C	D	350	50	1974

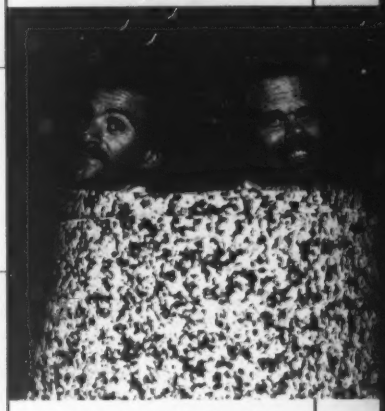
*A: 16% or more; B: 11% to 15%; C: 6% to 10%; D: 1% to 5%; E: Break-even; F: Loss

INC. 500

RANK 232

DAVID FERN AND JACK KNIGHT

Knight Floor Covering



"Going into my first business, I didn't know anything about survival. I was very naive. This time I'm much more cautious."

—David Fern

■

THE COMPANY

How do you find customers for floor covering? One way is to pursue the residential market, bidding on each job individually. Then there's Knight Floor's way: work with property managers who oversee 3 to 10 buildings with 200 to 500 units each. Knight has concentrated entirely on relationships with those managers, offering different styles and colors for each apartment complex, and immediate job turnarounds.

Another edge: Knight Floor trims its costs of materials 6% by paying bills within 10 days, a savings it can pass on to customers.

THE FOUNDERS

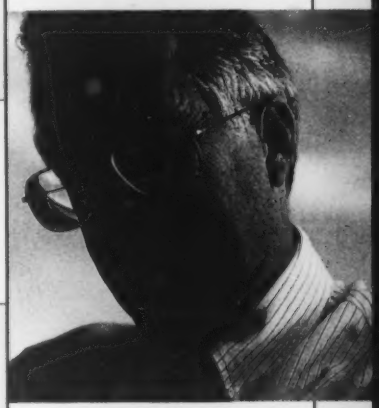
After growing up in a middle-class neighborhood in San Lorenzo, Calif., Fern taught for seven years, then became a building developer from 1977 to 1981. His fortunes soared, then he lost everything. A year and a half later he and Jack Knight started this business. Knight handles the technical end, while Fern manages the administration.

PHOTOGRAPH: CHRISTOPHER SPRINGMANN

	Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	'85	No. of employees '89	'85	Date founded
236.	**Boston Popcorn** Newton, MA Mfrs. & distr. snack foods	1,408%	$6,334	$420	C	F	40	5	1984
237.	**Tralico Leasing** (356) Greensboro, NC Rents, leases, & sells semitrailers	1,405	7,433	494	D	F	42	2	1983
238.	**Potpourri Foundry** Huntington Beach, CA Mfrs. potpourris & related prods.	1,402	3,694	246	F	A	70	7	1984
239.	**Allsup & Associates** Belleville, IL Provides Social Security consulting svcs.	1,395	2,317	155	A	A	33	1	1983
240.	**WordPerfect** (118) Orem, UT Mfrs. & sells computer software	1,390	276,044	18,522	A	B	1,612	199	1979
241.	**STATISTICA** (70) Clarksville, MD Provides software & eng. svcs.	1,388	20,209	1,358	D	D	234	22	1977
242.	**Northwest Pine Products** Bend, OR Produces wood chips for pulp & paper industry	1,386	5,900	397	C	F	18	6	1984
243.	**Judicial Arbitration & Mediation** Orange, CA Provides dispute-resolution svcs.	1,378	11,541	781	D	F	80	5	1979
244.	**Quintron** (44) Chantilly, VA Designs & mfrs. flight simulators	1,365	25,418	1,735	C	C	165	21	1984
245.	**Datacomm Networks** Tampa, FL Assembles & installs computer comm. & cables	1,361	1,519	104	C	B	31	3	1984
246.	**Synergics** Annapolis, MD Develops renewable-energy projects	1,360	18,250	1,250	F	D	125	5	1980
247.	**Quality Homes** Clarks Summit, PA Provides residential & commercial constr. svcs.	1,352	2,221	153	D	A	11	4	1985
248.	**Challenger & Hunt** St. Louis, MO Provides physician- & executive-search svcs.	1,351	2,336	161	A	A	40	2	1985
249.	**Computer Parts & Services** Plymouth, MN Sells, maintains, & repairs computers	1,351	8,341	575	D	D	51	11	1983
250.	**Mgmt. Assistance Corp. of America** El Paso, TX Provides solutions to scientific & mgmt. problems	1,347	12,070	834	D	D	145	40	1979
251.	**GMIS** Malvern, PA Develops health-care cost-containment software	1,346	4,034	279	D	F	40	15	1984
252.	**Stone County Ironworks** Mountain View, AR Designs & mfrs. iron prods.	1,342	2,538	176	C	B	110	32	1979
253.	**Loredan Biomedical** (41) Davis, CA Mfrs. diagnostic & therapeutic equip.	1,339	16,941	1,177	F	F	72	18	1984
254.	**Acoustic Imaging Technologies** (295) Tempe, AZ Mfrs. medical diagnostic ultrasound equip.	1,328	14,579	1,021	F	F	291	19	1983
255.	**J.D. Fields & Co.** Houston, TX Sells steel pipe, steel-sheet piling, & rail prods.	1,323	32,955	2,316	D	D	15	5	1985
256.	**JSA Healthcare** Columbia, MD Provides health svcs.	1,315	21,436	1,515	D	F	438	16	1984
257.	**Am-Pro Protective Agency** Columbia, SC Provides security, detective, & courier svcs.	1,313	19,671	1,392	D	D	1,076	150	1982
258.	**CW Systems** Austin, TX Provides computer consulting svcs.	1,313	6,062	429	C	F	100	30	1984
259.	**Proteus** Albuquerque, NM Develops computer systs. & systs. integration	1,305	2,290	163	D	C	55	3	1980
260.	**Liberty Technology Center** Conshohocken, PA Mfrs. diagnostic signal-processing systs.	1,301	5,492	392	C	F	63	6	1984
261.	**Bulls-Eye** Lincoln, NE Sells computers	1,296	5,025	360	D	D	32	3	1983
262.	**TMA Technologies** Bozeman, MT Mfrs. quality-assurance instrumentation	1,295	1,869	134	F	C	40	4	1984
263.	**Dialogic Communications** (320) Franklin, TN Mfrs. interactive voice-response systs.	1,294	2,217	159	D	F	19	9	1982
264.	**Painting Systems** Baton Rouge, LA Provides construction svcs.	1,289	6,960	501	E	D	72	50	1979
265.	**Peer Review Analysis** Malden, MA Provides health-care cost-containment programs	1,284	4,248	307	D	F	56	10	1984
266.	**KETIV Technologies** (121) Portland, OR Mfrs. CAD/CAM/CAE systs.	1,284	4,538	328	D	D	35	3	1983
267.	**Athletic Fitters** Eden Prairie, MN Sells athletic footwear & apparel	1,276	3,095	225	B	D	15	2	1984
268.	**Pentz Design Pattern & Foundry** (215) Duvall, WA Produces precision aluminum sand castings	1,274	1,731	126	D	A	38	2	1972
269.	**Spectrum Human Resource Systems** Denver, CO Develops, sells, & svcs. software	1,264	3,179	233	A	F	40	10	1984
270.	**Technical & Mgmt. Services** (22) Calverton, MD Provides software development svcs.	1,263	23,651	1,735	D	D	425	50	1982

*A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

RANK
240
ALAN ASHTON
WordPerfect



"My inspiration is faith. Faith in the future, faith in people, faith from on high."

■

THE COMPANY

WordPerfect is one of the largest and perhaps best-known companies on the list. Based in Orem, Utah, the software design and sales company produces software for fields as varied as graphics and office automation; 1989 sales were $276 million.

The key to its success? Customer service, says Ashton. WordPerfect regularly picks up awards from the trade press for its toll-free service, with 680 operators handling 14,000 calls a *day*.

THE FOUNDER

Ashton grew up in Salt Lake City and spent two and a half years as a missionary in Germany before graduating from the University of Utah with a Ph.D. in computer science. He taught at Brigham Young University from 1971 to 1985, stopping when the demands of the six-year-old company he'd cofounded became too great.

"It was hard on my family," he recalls. "I'd go to school early, then work, read the kids stories at dinnertime, then do more work. It was like standing on two icebergs drifting apart." Ashton's current goal: to spend more time with his wife and 12 children.

PHOTOGRAPH: KENT MILES

	Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	Profit range* '85	No. of employees '89	No. of employees '85	Date founded
271.	**Reserves Network** Rocky River, OH Provides temporary- & permanent-help svcs.	1,262%	$3,978	$292	E	F	32	5	1984
272.	**Kapp Construction** Springfield, OH Provides general-contracting svcs.	1,254	5,526	408	D	F	60	12	1985
273.	**Microtest** Phoenix, AZ Designs, mfrs., & mkts. LAN prods.	1,249	3,696	274	A	C	25	8	1984
274.	**LUGO Construction** Federal Way, WA Provides general-contracting svcs.	1,247	10,813	803	D	B	20	4	1978
275.	**Computext** Houston, TX Develops publishing & graphic-arts software	1,245	1,345	100	B	F	14	1	1982
276.	**Alliance Imaging** La Palma, CA Provides medical diagnostic svcs.	1,240	39,262	2,931	F	D	192	35	1983
277.	**Advanced Sciences** (274) Albuquerque, NM Provides environmental-consulting svcs.	1,235	28,405	2,128	D	D	236	51	1977
278.	**Spectra** Clarksburg, MD Mfrs. printed circuit boards	1,233	5,864	440	B	F	76	14	1985
279.	**Princeton Review/NJ, Bos. & Pitt.** Princeton, NJ Provides test-preparation svcs.	1,232	2,904	218	E	E	13	2	1985
280.	**AFS Window & Door** Anaheim, CA Mfrs., distr., & sells wooden windows & doors	1,231	10,396	781	D	F	40	8	1985
281.	**A.M. Express** Escanaba, MI Provides heavy trucking svcs.	1,227	1,367	103	D	B	26	3	1985
282.	**Hygienetics** Boston, MA Provides eng. & consulting svcs.	1,219	21,600	1,637	C	C	300	50	1982
283.	**Mike Madrid** West Lafayette, IN Rents & sells barricades to highway contractors	1,218	1,331	101	C	B	16	1	1984
284.	**Intercredit** Atlanta, GA Leases & finances aircraft	1,216	54,645	4,152	D	A	19	2	1984
285.	**MediQual Systems** (77) Westboro, MA Provides health-care information & software	1,212	12,532	955	C	F	160	30	1980
286.	**BC Consultants** Vienna, VA Provides eng., surveying, & landscape-arch. svcs.	1,211	3,133	239	F	A	63	9	1985
287.	**Gale Group** (231) Apopka, FL Mfrs. plastic lawn & garden prods.	1,211	27,055	2,064	D	F	320	34	1981
288.	**Analytical Med. Enterprises** (75) Baton Rouge, LA Provides contract nursing svcs.	1,208	11,639	890	D	D	210	18	1983
289.	**Trigen Energy** White Plains, NY Provides heating & cooling for urban buildings	1,206	5,591	428	F	F	138	7	1980
290.	**Martin-Logan** (156) Lawrence, KS Designs & mfrs. electrostatic stereo speakers	1,206	3,525	270	C	B	35	8	1983
291.	**MicroControl Systems** Venetia, PA Designs & mfrs. process-control systs.	1,180	1,882	147	B	F	26	6	1982
292.	**Dental Service** Birmingham, AL Sells dental supplies & equip.	1,180	1,510	118	D	F	14	4	1985
293.	**Shawmut Design & Construction** (191) Boston, MA Provides general-contracting svcs.	1,179	31,826	2,488	D	E	160	40	1982
294.	**Pacific Access Computers** Rancho Cordova, CA Integrates computer solutions	1,177	16,094	1,260	A	A	23	3	1985
295.	**Vitelic** (15) San Jose, CA Designs, mfrs., & mkts. semiconductor memories	1,174	73,571	5,773	A	E	339	50	1983
296.	**Project Development Group** (32) Monroeville, PA Provides asbestos-abatement svcs.	1,170	19,088	1,503	C	C	300	30	1984
297.	**Fitec International** Memphis, TN Provides import & export trading svcs.	1,165	7,918	626	C	F	6	2	1984
298.	**Smith/Crockett** Nevada City, CA Leases construction equip. & sells lumber	1,159	2,128	169	B	B	30	7	1984
299.	**Access TcA** Whitinsville, MA Provides trade-show-exhibit svcs.	1,159	2,606	207	C	D	32	10	1985
300.	**BioGenex Laboratories** San Ramon, CA Develops & mfrs. tumor-diagnosis prods.	1,146	2,343	188	D	F	37	9	1981
301.	**Chariot Eagle** (51) Ocala, FL Mfrs. recreational vehicles	1,145	16,780	1,348	D	D	165	25	1984
302.	**Fibertek** Herndon, VA Provides R&D for lasers & laser radar	1,143	3,790	305	C	C	38	4	1983
303.	**Sun Pharmaceuticals** Pompano Beach, FL Mfrs. & distr. skin- & health-care prods.	1,141	11,099	894	A	A	72	5	1981
304.	**C.G. Enterprises** (131) Southfield, MI Sells & svcs. microcomputer prods.	1,140	9,464	763	E	D	35	5	1982
305.	**Provista Software Int'l** San Jose, CA Provides software consulting & training svcs.	1,138	2,179	176	D	B	21	2	1985

*A: 16% or more. B: 11% to 15%. C: 6% to 10%. D: 1% to 5%. E: Break-even. F: Loss

RANK
274
ADRIAN LUGO
LUGO Construction

"Without an education, I am a Mexican farm worker. I see no difference between me and them, except I've learned to ask the right questions."

■

THE COMPANY

Lugo and his wife were renovating their house one day in 1974 when a developer inquired how much they wanted for it. An hour later they'd sold the $35,000 house for $70,000 and were in business.

The company started as a general contractor on residential properties and now oversees commercial construction. It has 8a status, which allows it to bid for jobs set aside for minorities.

THE FOUNDER

Lugo's childhood was spent in rural Texas, as his Mexican-born father found work selling vegetables, fixing cars, and welding. "He was very strict—excellence was pounded into us," says Lugo.

In 1967 Lugo was drafted and sent to Vietnam, where he was a helicopter gunner. Later he attended the University of California at Irvine, where he graduated cum laude with a degree in art.

"Vietnam showed me how amazing the United States is. The capitalist system—which in the '60s became a dirty word—means to me that you can develop capital and partake of the system."

PHOTOGRAPH: RICH FRISHMAN

INC. 500

RANK 330

BARBARA BEDNAR

Environmental Control Systems

"All of a sudden there's the day you wake up and realize, Hey, I really do know what I'm talking about. I have learned."

■

THE COMPANY

Bednar's father founded ECS in 1969 as an adjunct to his boiler-installation business. He wanted to develop a new fuel additive that would dissolve paraffin and sludge-tank buildup. For the next five years ECS distributed the additive. Sales plateaued at about $250,000.

The company hit its real growth cycle when it began taking on service work: cleaning or removing the tanks of clients, testing and removing contaminated soil, remediating groundwater, and testing tanks.

THE OWNER

Bednar never went to college. Instead, she married at 18, had a child, got divorced, and began working as an administrative assistant, then a real estate agent, before coming to ECS in 1975. "I had worked summers for my father as long as I can remember, and I always loved it." She became president in 1984 and was given enough stock over the past two years to make her the controlling owner.

	Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	Profit range* '85	No. of employees '89	No. of employees '85	Date founded
306.	**Performance Technologies** East Rochester, NY Mfrs. computer board prods.	1,133%	$5,723	$464	A	F	39	11	1981
307.	**D. Hilton Associates** Houston, TX Provides mgmt.-consulting svcs. to credit unions	1,127	1,239	101	A	F	8	2	1985
308.	**Formu-3 International** (14) Canton, OH Operates & franchises weight-loss facilities	1,126	21,942	1,790	A	A	242	50	1982
309.	**Coated Abrasive Products** Ramsey, MN Converts abrasive cloth & paper into sandpaper	1,126	1,618	132	D	C	22	3	1984
310.	**Professional Business Schools** (49) St. Louis, MO Operates private career schools	1,121	6,643	544	F	C	245	35	1976
311.	**Gerber Alley** (483) Norcross, GA Provides health-care information systs.	1,118	41,400	3,400	C	F	366	45	1983
312.	**Type Tech** Bellevue, WA Svcs. office equip. & sells computer accessories	1,114	3,374	278	D	D	20	5	1979
313.	**RJO Enterprises** (80) Lanham, MD Provides telecomm. & records-mgmt. svcs.	1,112	60,246	4,970	E	D	610	195	1979
314.	**Miaco** Englewood, CO Provides software training & consulting svcs.	1,106	1,520	126	C	A	22	2	1985
315.	**Digidesign** Menlo Park, CA Mfrs. & mkts. editing systs. for PCs	1,105	4,493	373	C	C	37	7	1984
316.	**Surgilase** Warwick, RI Mfrs. & mkts. surgical lasers	1,104	7,907	657	F	F	60	3	1984
317.	**Prima Communications** Rocklin, CA Publishes nonfiction general trade books	1,103	2,406	200	C	B	7	3	1984
318.	**Grant Wood Specialties** (122) Nampa, ID Mfrs. oak doors	1,097	4,465	373	D	D	91	25	1971
319.	**Routing Technology Software** (177) Vienna, VA Develops & sells video routing software	1,096	4,101	343	A	A	31	5	1983
320.	**Unilink Software** Jackson, WY Develops, mkts., & supports accounting software	1,093	2,184	183	D	F	35	5	1982
321.	**Superior Concrete** Berlin, NJ Provides contracting svcs.	1,092	3,243	272	E	C	57	11	1979
322.	**Benko Products** Westlake, OH Mfrs. elevating platforms & industrial ovens	1,083	1,644	139	C	F	5	1	1984
323.	**Red Rose Graphics** Lancaster, PA Provides color-separation svcs.	1,081	4,545	385	D	C	78	11	1985
324.	**Seatec** (185) Warrior, AL Provides eng., technical, & office svcs.	1,079	12,592	1,068	D	D	12	3	1977
325.	**U.S. Xpress** Chattanooga, TN Provides interstate motor-carrier svcs.	1,077	40,740	3,460	D	F	625	85	1985
326.	**Bruno Independent Living Aids** Oconomowoc, WI Mfrs. wheelchair lifts for autos, trucks, & vans	1,074	2,148	183	D	F	28	3	1984
327.	**AngioSystems** Stone Mountain, GA Mfrs. disposable angiographic drapes & trays	1,071	1,745	149	C	F	35	6	1984
328.	**Schnaubelt Shorts** Coraopolis, PA Mfrs. bicycling apparel	1,067	1,179	101	D	F	52	5	1983
329.	**Control Systems Engineering** Memphis, TN Designs, mfrs., & sells weighing systs.	1,066	1,971	169	D	F	16	2	1983
330.	**Environmental Control Systems** Broomall, PA Tests & cleans contaminated soil	1,053	2,871	249	D	F	9	3	1969
331.	**Industrial Health** Salt Lake City, UT Provides environmental-consulting svcs.	1,052	3,167	275	B	E	47	5	1980
332.	**Northeast Battery & Alternator** Millbury, MA Distr. car, marine, & specialty batteries	1,045	1,695	148	D	F	10	2	1985
333.	**Bryant Management** Houston, TX Develops shopping centers & apartments	1,039	2,427	213	B	F	25	1	1981
334.	**Bertucci's** (72) Woburn, MA Operates restaurant chain	1,036	19,216	1,691	B	F	800	130	1981
335.	**Sierra Amusement** Rancho Cordova, CA Distr. videotapes, Nintendo, & accessories	1,036	5,088	448	E	C	40	5	1981
336.	**Datacap Systems** Montgomeryville, PA Mfrs. & mkts. transaction-processing systs.	1,035	6,266	552	C	F	22	11	1983
337.	**Barakat & Chamberlin** (181) Oakland, CA Provides economic- & mgmt.-consulting svcs.	1,031	6,287	556	D	A	84	6	1982
338.	**Northwest Group** Fresno, CA Provides general-contracting svcs.	1,027	31,746	2,817	D	F	35	10	1981
339.	**Membrane Syst. Specialists** Wisconsin Rapids, WI Mfrs. ultrafiltration for food & dairy industries	1,021	1,659	148	E	E	8	1	1985
340.	**Hillside Coffee** Carmel, CA Distr. & roasts coffee	1,019	15,222	1,360	F	C	67	5	1978

*A: 16% or more. B: 11% to 15%. C: 6% to 10%. D: 1% to 5%. E: Break-even. F: Loss

PHOTOGRAPH: ERICA FRUEDENSTEIN

INC. 500

RANK 369

GEORGE LUNDQUIST
Calidad Electronics

"My biggest concern is the unpredictable things that could happen. I don't have any fear of our *screwing it up."*

■

THE COMPANY

Calidad started as a contract manufacturer of circuit boards for another start-up, DSC Communications, and eventually became that concern's principal supplier. Although work for DSC still makes up 60% to 70% of Calidad's annual revenues, that's down from 95% two years ago.

The key to success, says Lundquist, has been providing quick, flexible service. "We're not doing high-volume steady stuff [for DSC]; it's low volume, with rapid changes in design. We're not doing the same thing each month. At any given time we've got 95 to 110 different products in process. Sometimes they change daily."

THE FOUNDER

Lundquist grew up in Willmar, Minn.; his mother drove a school bus, and his father was a postal clerk. He worked for Texas Instruments and then Haggar, the apparel company, before starting his company in 1985.

His goals are straightforward: "I'm still looking for cash in the bank. I think $2 million to $2.5 million is a nice amount I could survive on."

	Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	'85	No. of employees '89	'85	Date founded
341.	**RAM Technologies** Ashland, KY Provides long-distance telecomm. svcs.	1,014%	$3,710	$333	C	A	35	5	1976
342.	**Entek** Alexandria, VA Provides eng. & high-tech professional svcs.	1,013	5,764	518	D	F	68	3	1980
343.	**Business Temporary Services** Overland Park, KS Provides temporary- & permanent-help svcs.	1,007	2,093	189	F	E	5	2	1985
344.	**March-Westin** (133) Morgantown, WV Provides general-contracting svcs.	1,007	2,723	246	D	D	20	6	1984
345.	**EVI** (278) Columbia, MD Designs & mfrs. medical & security systs.	1,004	1,689	153	B	F	15	3	1983
346.	**Securities Service Network** Knoxville, TN Provides brokerage svcs.	1,002	1,907	173	D	E	50	9	1983
347.	**Team Spirit** Omaha, NE Sells licensed sports apparel	1,000	5,500	500	B	B	45	4	1985
348.	**NEO** Hazelwood, NC Provides asbestos-abatement svcs.	998	5,062	461	D	C	47	5	1984
349.	**Cascade Color** Portland, OR Provides color-separation svcs.	991	2,912	267	D	F	48	12	1985
350.	**Bradley** Highland Heights, OH Develops & sells insurance software	987	1,130	104	D	F	12	2	1983
351.	**Senior Market Sales** Omaha, NE Sells insurance	986	22,386	2,061	D	D	33	11	1984
352.	**Micro Linear** San Jose, CA Mfrs. & sells analog integ. circuits	984	30,258	2,791	C	F	163	80	1983
353.	**Applied Energy Services** (126) Arlington, VA Owns & operates independent power-prod. facilities	980	99,224	9,189	D	D	376	176	1981
354.	**JAK Construction** Falls Church, VA Provides construction & renovation svcs.	979	18,608	1,724	D	C	125	11	1982
355.	**Information Management Associates** Trumbull, CT Provides mkt. & sales-support software	979	2,751	255	A	A	40	5	1984
356.	**Certified Traffic Controllers** Andover, NY Mfrs. road signs & specialty road-safety prods.	979	2,740	254	C	D	50	5	1983
357.	**Mangano** (71) Visalia, CA Develops shopping centers & commercial projects	978	20,058	1,861	D	F	38	4	1978
358.	**Benchmark Marketing & Consulting** Omaha, NE Provides ads & mkt. svcs. for autos, RVs, & boats	975	1,828	170	A	A	28	7	1984
359.	**Eyecatcher Sportswear** El Segundo, CA Designs & distr. printed sportswear	972	2,981	278	B	B	8	2	1983
360.	**Daisytek** Garland, TX Distr. computer supplies & accessories	971	113,013	10,556	D	D	200	54	1977
361.	**Derma Sciences** Old Forge, PA Distr. & mkts. pharmaceuticals	969	1,101	103	D	F	9	4	1984
362.	**W.H. Stoller & Associates** Portland, OR Provides temporary-help svcs.	969	8,431	789	D	D	52	19	1983
363.	**LMB Microcomp./Connecting Point** Indianapolis, IN Sells computers	964	15,494	1,456	B	B	20	4	1980
364.	**Myers-Holum** (469) New York, NY Provides accounting & consulting svcs.	964	4,150	390	D	D	60	10	1984
365.	**Sunrider** Torrance, CA Distr. health & beauty prods.	960	139,179	13,129	C	D	370	82	1976
366.	**Express Services** (97) Oklahoma City, OK Franchises employment offices	959	106,662	10,068	D	D	52	15	1983
367.	**Advanced Systs. in Measure. & Evaluation** Dover, NH Provides educational testing svcs.	955	2,395	227	C	F	28	5	1983
368.	**Vitronix** (108) Westboro, MA Distr. VAR microcomputers	954	17,305	1,642	E	E	45	13	1984
369.	**Calidad Electronics** Edinburg, TX Assembles contract electronics	954	5,226	496	C	F	382	25	1985
370.	**Overland Data** San Diego, CA Mfrs. nine-track-tape subsystems for PCs	953	5,002	475	C	A	41	6	1980
371.	**Cobb Group** Louisville, KY Publishes computer software journals	947	5,163	493	C	E	58	7	1984
372.	**Community Lifecare Enterprises** Springfield, IL Operates nursing & retirement homes	945	28,205	2,699	F	F	1,880	425	1983
373.	**R. Glass Landscape** Roselle, IL Provides landscaping svcs.	941	4,093	393	B	A	186	15	1980
374.	**RCT International** Chicago, IL Provides travel svcs.	941	208,726	20,054	D	D	175	95	1983
375.	**Interstate Insulation of America** Edina, MO Provides asbestos-abatement & insulation svcs.	939	8,232	792	D	C	200	27	1985

*A: 16% or more; B: 11% to 15%; C: 6% to 10%; D: 1% to 5%; E: Break-even; F: Loss

PHOTOGRAPH: TERRY URDAL

INC. 500

RANK 393

JOHN BERGUSON JR.

Kingdom Tapes & Electronics

"I thought if I expanded my business, some people who were out of work in the area wouldn't have to leave."

■

THE COMPANY

When Berguson started his company, in 1981, it was called the American Horse Institute and distributed his personal horse-training tapes. Because he was buying cassette tapes in bulk, he occasionally resold them to churches that recorded services for shut-ins, college students, and servicemen. In 1984 he began offering high-speed duplicating machines and printing in addition to blank tapes, and in 1986 he added video-production services. The company's customer base has expanded to include prisons, courts, and such commercial accounts as GTE, Telex, and Borden's.

THE FOUNDER

Grandson of a Baptist minister, Berguson relies heavily on his faith, seeing his vocation as a calling to be an "evangelical horseman." In matters of management, he relies on his wife, Juanita: "I'm a terrible manager, but my wife is an excellent one, so she's the general manager. My time is supposed to be spent in advertising and marketing, but I'll jump in and try to solve any problem."

	Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	Profit range* '85	No. of employees '89	No. of employees '85	Date founded
376.	**dataLOK** Los Angeles, CA Stores, retrieves, & manages data	939%	$1,060	$102	C	F	23	6	1984
377.	**National Service** (161) Millersville, MD Operates outpatient weight-loss centers	939	2,566	247	C	D	28	3	1984
378.	**GWA Information Systems** Waltham, MA Provides consulting for computer info. systs.	938	1,215	117	D	B	17	7	1984
379.	**High Five Sportswear** Vernon, CA Mfrs. & sells corporate & promotional apparel	937	3,879	374	D	C	11	3	1983
380.	**Bottle Water Vending** Oceanside, CA Sells water for vending machines	936	15,641	1,510	D	C	124	12	1983
381.	**Management Information Consulting** Arlington, VA Provides computer consulting svcs.	934	1,458	141	D	D	30	2	1985
382.	**XA Systems** (66) Los Gatos, CA Develops & mkts. eng.-software prods.	929	22,192	2,156	F	D	198	26	1982
383.	**Associated Family Photographers** Phoenix, AZ Provides family-portrait photography svcs.	923	14,337	1,402	D	D	315	35	1984
384.	**Hub City Ohio Terminals** Holland, OH Provides shipping svcs. by rail & truck	913	7,905	780	D	F	6	2	1980
385.	**Sunrise Terrace** Oakton, VA Develops, operates, & manages retirement complexes	912	5,614	555	C	C	185	60	1981
386.	**Total Terrain** Pueblo, CO Provides landscape construction svcs.	911	1,183	117	B	C	32	3	1983
387.	**Penn Property & Casualty** Lemoyne, PA Sells insurance & surety prods.	911	1,557	154	D	F	8	2	1985
388.	**Cellular Service** (101) Glendale, CA Sells monthly cellular-phone svcs.	909	30,612	3,035	D	D	37	7	1984
389.	**Team Building Systems** Houston, TX Provides preemployment screening svcs.	907	2,377	236	D	F	15	7	1984
390.	**Mini Computer Software Specialists** Waukesha, WI Provides mgmt.-software systs.	907	1,007	100	B	F	16	3	1980
391.	**Future Now** (476) Cincinnati, OH Distr. computers	906	48,918	4,862	D	D	180	45	1976
392.	**Action Group Northwest** Seattle, WA Sells promotional merchandise	900	8,972	897	F	E	75	8	1985
393.	**Kingdom Tapes & Electronics** Mansfield, PA Sells audio- & videotapes	898	3,871	388	C	C	46	4	1981
394.	**Champion Mortgage** (109) Parsippany, NJ Provides mortgage banking svcs.	896	15,337	1,540	A	A	107	18	1981
395.	**Gentle Giant Moving** Somerville, MA Provides moving & storage svcs.	894	1,888	190	E	C	30	5	1985
396.	**White Pine Software** Amherst, NH Develops computer software	893	2,273	229	A	D	19	4	1984
397.	**E&L Plastics** Lannon, WI Mfrs. point-of-purchase displays	889	2,919	295	D	D	46	7	1984
398.	**Certified Engineering & Testing** (226) Braintree, MA Provides environmental testing & consulting svcs.	888	11,712	1,185	E	D	212	33	1983
399.	**All Gulf Contractors** (405) Mobile, AL Provides asbestos-abatement svcs.	888	13,548	1,371	D	A	150	25	1980
400.	**KSH Systems** Los Angeles, CA Sells & supports business application software	887	1,076	109	F	E	14	1	1984
401.	**Execu*Systems** Phoenix, AZ Provides real estate brokerage svcs.	887	1,836	186	C	B	970	2	1965
402.	**Arrowhead Landscaping & Maint.** (254) Phoenix, AZ Provides landscape contracting svcs.	886	4,981	505	D	C	175	20	1983
403.	**Prince St. Technologies** Atlanta, GA Mfrs. & sells commercial carpeting	885	18,624	1,890	D	D	165	20	1984
404.	**Mortara Instrument** (227) Milwaukee, WI Mfrs. medical instruments	883	15,353	1,562	B	B	90	12	1982
405.	**Wabash National** Lafayette, IN Mfrs. semitrailer & transportation equip.	881	155,095	15,809	D	F	1,040	17	1985
406.	**McGrath Industries** Clifton Park, NY Provides general-contracting svcs.	874	15,406	1,582	B	C	105	15	1985
407.	**General Transportation Services** Liverpool, NY Provides transportation & delivery svcs.	867	6,477	670	D	C	175	15	1983
408.	**West Coast Video** (91) Philadelphia, PA Operates video-rental stores	865	46,584	4,828	D	D	404	61	1983
409.	**Leros Point to Point** (194) Thornwood, NY Provides corporate transportation svcs.	863	2,476	257	B	F	55	10	1984
410.	**KD Kanopy** Arvada, CO Mfrs. canopies, tents, banners, & poles	862	2,135	222	B	B	12	7	1984

*A: 16% or more; B: 11% to 15%; C: 6% to 10%; D: 1% to 5%; E: Break-even; F: Loss

PHOTOGRAPH: GARY LEBLANC

RANK
421
STEVEN ANDERSON
CryoLife

"One of the fun things now is, I know we're going to make it. There isn't this constant worry about failure."

■

THE COMPANY

When CryoLife was founded, some 85% of human hearts donated for transplant were discarded because getting them quickly to recipients was often not logistically possible. CryoLife's technology "recycles" the valves of those unusable hearts by freezing them for later use.

The company has begun expanding into the preservation of veins, and next year it will seek Food and Drug Administration approval for a new method of freezing whole blood. The freezing technique, says Anderson, has the potential to take the company to $50 million in the next five years; it's a payoff of committing 10% to 12% of revenues to research and development—two to three times, he says, the industry average.

THE FOUNDER

Anderson grew up in St. Paul, Minn.; his mother was a bookkeeper, and his father spent his career at one bank. After a stint in the army, Anderson worked for two decades with medical-products firms, including a start-up. A heart-valve salesman passed on the idea that inspired CryoLife.

	Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	'85	No. of employees '89	'85	Date founded
411.	**C.W. Brown** Thornwood, NY Provides interior renovation svcs.	861%	$5,976	$622	D	D	27	10	1984
412.	**FRS** Sacramento, CA Repairs computer periph.	859	8,451	881	D	F	121	50	1984
413.	**Consolidated Food Management** Winter Park, FL Mfrs. gourmet pasta & sauces	859	1,784	186	D	F	40	8	1984
414.	**Bull & Finch Enterprises** Boston, MA Produces, sells, & distr. "Cheers" clothing	856	6,236	652	D	D	65	8	1985
415.	**LINC Group** Chicago, IL Provides finan. svcs. for health-care industry	856	85,792	8,974	D	B	250	34	1975
416.	**CareTeam Management** Wichita Falls, TX Provides home health care	855	14,564	1,525	D	A	95	20	1984
417.	**Software 2000** (208) Hyannis, MA Develops finan.-& environmental-mgmt. software	853	20,086	2,107	C	A	190	30	1981
418.	**Trecom Business Systems** Edison, NJ Provides software dvlpmt. & integration svcs.	853	45,426	4,769	C	E	570	76	1985
419.	**Financial Supermarkets** (150) Poughkeepsie, NY Provides finan. planning svcs.	852	11,899	1,250	B	D	24	2	1978
420.	**Chums** Hurricane, UT Mfrs. eyeglass retainers & sportswear	852	2,275	239	C	F	54	4	1983
421.	**CryoLife** Marietta, GA Preserves human tissue for transplants	852	8,593	903	F	F	51	9	1984
422.	**International Organic Products** Laurel, MD Distr. designer fragrances & cosmetics	850	998	105	D	D	2	3	1983
423.	**wTe** (199) Bedford, MA Provides solid-waste-mgmt. svcs.	850	14,574	1,534	F	C	200	75	1981
424.	**Leopardo Construction** (351) Glendale Heights, IL Provides general-contracting svcs.	849	26,387	2,781	D	D	60	14	1979
425.	**Walker Richer & Quinn** (230) Seattle, WA Mfrs. communication software prods.	843	18,613	1,974	A	F	105	13	1980
426.	**Red Trolley** Long Beach, CA Distr. groceries & paper goods to restaurants	842	1,310	139	C	D	3	1	1983
427.	**IMRS** (213) Stamford, CT Develops finan. information mgmt. software	840	12,682	1,349	C	C	93	20	1981
428.	**Escape Enterprises** Columbus, OH Operates fast-food restaurant chain	838	1,905	203	A	C	20	4	1982
429.	**Oncor** Gaithersburg, MD Provides R&D svcs. for DNA/RNA probes	838	2,345	250	F	F	40	10	1983
430.	**American Medical Imaging** (10) Horsham, PA Provides ultrasound testing svcs.	832	12,854	1,379	F	D	182	24	1984
431.	**Municipal Marketing Services** Pittsburgh, PA Provides direct-mail fund-raising program	819	919	100	D	F	9	2	1980
432.	**Midwest Wood Treating** (99) Norwalk, OH Treats lumber with wood preservatives & chemicals	818	7,880	858	D	D	30	8	1983
433.	**Colter Bay International** (176) New York, NY Mfrs. women's, men's, & children's apparel	817	17,013	1,856	D	D	27	7	1983
434.	**Wang Associates PR** (261) New York, NY Provides PR for pharmaceutical & biotech cos.	816	1,740	190	B	A	25	5	1983
435.	**Northwest Conduit** Plain City, OH Installs cable & conduits for phone & electric cos.	815	4,428	484	F	A	87	10	1984
436.	**Russell Personnel Services** (184) San Francisco, CA Provides temporary- & permanent-help svcs.	815	4,309	471	B	A	1,315	317	1983
437.	**USA Heating & Air Conditioning** Indianapolis, IN Sells, installs, & svcs. heating & AC equip.	814	1,609	176	D	F	33	5	1985
438.	**MediCenter** Lawton, OK Operates primary-care medical centers	813	3,650	400	A	A	67	5	1984
439.	**R.W. Lynch** (67) San Ramon, CA Provides mkt. & TV advertising svcs.	812	9,907	1,086	D	F	50	10	1984
440.	**TABRA** Fairfax, CA Designs & mfrs. handcrafted jewelry	811	3,251	357	B	A	65	10	1982
441.	**Transition Dynamics** Bohemia, NY Resells computer supplies	806	2,819	311	D	F	14	3	1982
442.	**Full Line Foods** (370) Camden, NJ Distr. food	804	10,433	1,154	D	D	27	4	1980
443.	**NHS** (214) Soquel, CA Distr. skateboards & related prods.	804	24,652	2,728	B	D	138	64	1972
444.	**CText** (269) Ann Arbor, MI Mfrs. newspaper publishing systs.	803	10,542	1,167	C	F	100	9	1983
445.	**Compu-Link** (105) Clearwater, FL Mfrs. & installs computer cables & networks	803	5,759	638	D	C	105	24	1984

*A: 16% or more. B: 11% to 15%. C: 6% to 10%. D: 1% to 5%. E: Break-even. F: Loss

PHOTOGRAPH: LYNN SILER

INC. 500

RANK 464

ANITA DIMONDSTEIN AND JOAN COOPER

Biobottoms

"We're in transition . . . looking at how we can best continue to do those things we really enjoy."
—Anita Dimondstein

■

THE COMPANY

Dimondstein and Cooper both had young children in 1984, when they discovered an imported soft wool diaper cover, used over washable diapers. For Dimondstein, a midwife, and Cooper, a teacher, the wool cover had more appeal than a plastic one, so "in usual naïve, entrepreneurial fashion," says Dimondstein, "Joan and I looked at each other and said, 'If *we* can use these, there must be other people who can, too.' "

Their original idea was to be distributors of that single product, but they began worrying about potential import quotas. (The diaper covers are made in Japan.) As protection and in response to customer interest, they have diversified into children's clothing.

THE FOUNDERS

They were roommates in the 1960s at the University of Pennsylvania. As business partners, they're "mutually supportive," says Cooper. "We respect each other quite a lot in our judgment, and we do defer to each other if one feels strongly about something."

Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	Profit range* '85	No. of employees '89	No. of employees '85	Date founded
446. Unique Transportation Systems (337) Lewisville, TX Provides interstate trucking svcs.	802%	$6,416	$711	F	C	90	16	1983
447. Eastern Marine Construction (232) Nashua, NH Provides construction & site-preparation svcs.	802	8,686	963	D	D	135	22	1981
448. JasTech (114) Cleveland, OH Provides information-systs. consulting svcs.	801	4,226	469	F	B	96	1	1983
449. Clean Cut Austin, TX Provides landscape-mgmt. svcs.	798	1,464	163	C	B	60	8	1983
450. Lone Star RV Sales Houston, TX Sells recreational vehicles	796	5,637	629	D	F	14	4	1985
451. ERM-West Walnut Creek, CA Provides environmental-consulting svcs.	795	10,010	1,119	C	A	80	12	1984
452. McLean Rentals Newington, VA Rents construction equip.	793	20,175	2,259	C	C	165	83	1974
453. Harmony Schools Princeton, NJ Provides child-care svcs.	792	1,971	221	C	A	100	12	1981
454. Custom Packaging Systems Manistee, MI Mfrs. industrial bags & liners	790	3,710	417	D	E	85	10	1975
455. Software Alternatives (335) Maumee, OH Develops software & integrates hardware	788	21,300	2,400	D	E	330	74	1978
456. TECA Louisville, KY Operates hair-care franchises	784	1,822	206	D	F	128	12	1984
457. Funeral Directors Life Insurance Abilene, TX Provides prearranged funeral svcs.	783	16,219	1,837	D	D	21	6	1981
458. BASIS International Albuquerque, NM Develops computer software & database systs.	782	2,444	277	B	C	39	5	1985
459. ABL Electronics Timonium, MD Mfrs., imports, & distr. computer cable assemblies	778	1,537	175	D	E	54	8	1982
460. Beckart Environmental Kenosha, WI Mfrs. wastewater-treatment equip.	778	2,134	243	D	D	20	3	1978
461. Supplyline Orlando, FL Sells computer prods. & business forms	777	2,989	341	D	D	25	4	1982
462. Telebase Systems Bryn Mawr, PA Operates information svcs. network	775	5,021	574	F	F	57	15	1984
463. DiGesare Mechanical (292) Schenectady, NY Installs plumbing, heating, & AC systs.	773	11,936	1,367	D	D	90	30	1950
464. Biobottoms Petaluma, CA Sells natural-fiber clothing by mail order	771	8,279	951	C	D	56	10	1981
465. RHS Fertilizing/Spraying Systems (305) Hiawatha, KS Designs, mfrs., & distr. spraying equip.	769	2,623	302	C	D	19	4	1980
466. Professional Salon Concepts (144) Joliet, IL Distr. beauty salon prods.	752	4,421	513	C	D	28	8	1983
467. Flexible Business Systems Melville, NY Integrates microcomputer systs.	760	2,674	311	D	C	12	2	1985
468. M. Lavine Design Workshop (471) Cold Spring, MN Designs & mfrs. store display fixtures	752	2,419	284	D	F	8	5	1981
469. Steadfast Chelsea, MA Mfrs. metal stampings for aircraft	751	1,643	193	B	F	26	5	1982
470. Microware Beaverton, OR Distr. computer equip. & periph.	751	134,449	15,797	D	D	381	42	1979
471. Morningstar Chicago, IL Publishes finan. information	750	1,114	131	E	F	29	2	1984
472. COMReP Omaha, NE Designs & administers insured-investment programs	750	12,108	1,424	D	E	12	4	1982
473. Super Wash (280) Morrison, IL Owns & manages coin-operated car washes	750	23,065	2,713	C	C	70	9	1981
474. CAD/CAM Engineering Indianapolis, IN Provides engineering svcs. using CAD/CAM	750	13,259	1,560	C	F	137	28	1982
475. Liant Software Framingham, MA Develops & mkts. integ. programming systs.	749	12,995	1,530	A	F	129	25	1980
476. Nationwide Vending Svcs. (195) Upland, CA Provides mgmt. svcs. for vending machines	746	8,615	1,018	F	F	44	15	1983
477. Green Thumb Enterprises (316) Sterling, VA Provides commercial landscape contracting svcs.	746	11,000	1,300	D	C	278	80	1982
478. Journal of Light Construction (463) Richmond, VT Publishes construction trade magazine	743	1,805	214	F	D	35	3	1982
479. Software X-Change Oklahoma City, OK Develops, publishes, & distr. video games	743	3,837	455	C	D	36	4	1984
480. Consolidated Southern Industries Anderson, SC Fabricates metal	741	908	108	B	D	20	3	1984

*A: 16% or more; B: 11% to 15%; C: 6% to 10%; D: 1% to 5%; E: Break-even; F: Loss

PHOTOGRAPH: CHRISTOPHER SPRINGMANN

INC. 500

RANK 486

SUZANNE CLIFTON
Executive Temporaries

"My husband kept pushing. 'Why don't you go into business?' he'd say. And I said, 'You've got to be kidding!' "

■

THE COMPANY

When Clifton started her firm, there were five competing temporary personnel agencies in the city. Now there are seven times that many. Clifton competes by making sure the temps she sends out are well trained; the company has a training center to give one-on-one tutorials on different computer programs and systems.

THE FOUNDER

"I got married and had two children because back in those days, and it wasn't long ago, that was the thing to do. But there were so many things gnawing at me because there was something more that I needed."

In 1971 Clifton was divorced and began teaching full-time. Later she remarried and got a job at Olsten Corp., where she worked for three years before starting her own company—at the urging of her husband, Larry. He also runs his own company, in janitorial contracting, where Clifton's two sons work. "We now have to have someone clean for us, someone to do the yardwork. We have a different lifestyle. And I don't feel guilty anymore about not making dinner."

	Company (1989 rank) Business description	Sales growth 1985-89 % increase	'89 sales ($000)	'85 sales ($000)	Profit range* '89	Profit range* '85	No. of employees '89	No. of employees '85	Date founded
481.	**Hancock Information Group** Longwood, FL Provides mkt. research for hardware & software cos.	738%	$1,014	$121	D	C	38	4	1985
482.	**DMC Construction** (252) Fresno, CA Provides general-contracting svcs.	737	23,843	2,850	D	D	57	8	1976
483.	**T&K Roofing** Ely, IA Provides commercial & industrial roofing svcs.	735	3,935	471	F	F	65	29	1962
484.	**Hydro Services** (271) Long Beach, CA Provides industrial maintenance svcs.	735	9,913	1,187	C	D	190	35	1982
485.	**BSE Management** (149) Arcadia, CA Provides eng.- & environmental-consulting svcs.	732	7,604	914	D	B	126	14	1982
486.	**Executive Temporaries** Cary, NC Provides temporary-help svcs.	731	2,168	261	D	D	10	3	1984
487.	**Syscomm International** (319) Hauppauge, NY Sells computer hardware & software	729	30,072	3,629	F	D	70	20	1980
488.	**Amorous Andi's Cookies & Candies** Lorton, VA Mfrs. & distr. baked prods.	728	1,201	145	F	F	42	2	1985
489.	**AC3 Computer Centers** (416) Birmingham, AL Distr. computers, periph., & related prods.	728	105,396	12,734	D	D	309	48	1980
490.	**Auburn Merchandise Distributors** (59) Auburn, MA Distr. tobacco, confectionary, & related prods.	727	66,034	7,983	D	D	92	16	1984
491.	**Bohdan Associates** (168) Gaithersburg, MD Sells & svcs. computer equip. & software	727	74,046	8,957	D	D	147	17	1983
492.	**Jandel Scientific** (216) Corte Madera, CA Mfrs. software tools for scientific research	726	3,338	404	E	F	32	12	1982
493.	**McDonald Bradley** McLean, VA Provides computer application consulting svcs.	726	1,759	213	C	F	33	11	1985
494.	**New England Digital Distribution** Beverly, MA Provides telecomm. networks	726	3,551	430	F	F	24	3	1983
495.	**Comark** (444) Glendale Heights, IL Distr. computers & periph.	725	67,439	8,178	D	D	130	50	1977
496.	**Decker, Hardt, Kopf, Harr, Munsch & Dinan** Dallas, TX Provides commercial law svcs.	723	7,558	918	A	A	77	17	1985
497.	**Design Communications** Boston, MA Fabricates arch. signs & displays	719	1,474	180	D	F	29	7	1984
498.	**Computer Media Tech.** (134) Mountain View, CA Mfrs. & sells computer recording media	716	2,652	325	C	C	6	2	1984
499.	**Continental Food** Overland Park, KS Imports & distr. gourmet & specialty foods	714	822	101	C	D	7	2	1984
500.	**Coddbarrett Associates** (315) Providence, RI Provides computer graphics systs.	713	3,498	430	E	B	20	10	1981

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HOW THE INC. 500 WERE SELECTED

To be eligible for the 1990 *Inc.* 500, a company must have been independent and privately held on July 9, 1990, the day applications were due. The rankings are based on the percentage increase in sales from 1985 through 1989. Companies had to show at least $100,000 but no more than $25 million in sales for 1985 and had to register a sales increase between 1988 and 1989. Holding companies and regulated banks and utilities are not eligible.

Information on each applicant was verified by tax forms, by confirmation letters from certified public accountants, and by telephone conversations with company officials. Most of the work is done by our summer interns. If your company is on this year's list, you talked with Brendan Case, a sophomore at Haverford College; Suzanne Coulter, a senior at Carleton College; Maggie Davis, a 1989 graduate of the University of Washington; Tom Drohan, a 1990 graduate of Johns Hopkins University; Mark Gilmor, a sophomore at Hobart College; Ralph Groves, a senior at Amherst College; Matt Huber, a senior at Providence College; Kate McDonough, a 1990 graduate of Colby-Sawyer College; Kathy Ryan, a 1990 graduate of Williams College; or Caty Supper, a senior at Bowdoin College.

The *Inc.* 500 is prepared under the direction of special projects editor Sara Baer-Sinnott. Also helping to compile this year's list were assistant research editor Deborah L. Weeks and editorial assistant Christopher Caggiano. Staff writer Leslie Brokaw wrote the profiles that appear among the listings.

The information published here is the only material *Inc.* will make available.

PHOTOGRAPH: CHIP HENDERSON

Note: Figures reflect only those companies that offer incentive compensation.

Source: Survey of 250 manufacturers with sales ranging from $10 million to $200 million, Grant Thornton, Chicago, 1990

TRAINING

I see what you mean

"We'd lecture employees all day long about what needed to be improved, and they wouldn't get it," recalls Mark Taylor, CEO of AFS Window & Door Corp., a $10-million maker of wooden windows and doors based in Anaheim, Calif. Now Taylor has meetings every two months in which he serves pizza to his 70 employees and they watch videos of customers on construction sites pointing out problems with the windows. Since the sessions began, customer complaints have been cut by more than 60% and returns due to poor shipping and handling have become rare.

Salespeople, who double as camera-crew members, report that customers are flattered to have their complaints addressed so responsibly. "Employees immediately see how mistakes can cause problems and know what needs to be done," says Taylor. ❑

CEO Mark Taylor uses videos to ensure employees get the picture.

INTERNATIONAL

World piece

Lining up good stateside distributors is challenge enough, but finding committed distributors overseas is even more daunting. Most foreign distributors will want exclusivity. Should you grant it?

Yes—and no, says Roy Kessler, president of PC Globe Inc., a $6-million Tempe, Ariz., company that put the atlas onto software.

At first Kessler cut a deal offering exclusivity without any performance clause and with no insistence on a front-end order. Overseas product sales languished.

Now if distributors want exclusivity, Kessler offers 20% of what they think they can sell in a year as their first order, which must be prepaid. "They don't get an exclusive so much as the *opportunity* for an exclusive," says Kessler. As long as they keep ordering as much as their first order each quarter, they retain their monopolies. To date, PC Globe's German distributor has maintained its exclusive rights. The product sells in 15 foreign countries, accounting for 15% to 20% of overall sales. ❑

FINANCE

Red alert

At Decoma Industries, staying on top of accounts receivable is everybody's job, including the president's. On the Vernon, Calif., architectural firm's project-scheduling board, a red dot goes up next to the names of late-paying customers. Employees halt work on those clients' projects. "It keeps us focused on profitable projects rather than on the ones for which we have the most emotional investment," says president Steve Notaro.

The red dot goes up if an invoice payment is one day past due (30 days after it's mailed). Notaro mails or faxes the customer a copy of the invoice with a note saying work has stopped. He follows up with a letter every 15 days. Each day he personally calls the two most delinquent customers. Notaro has used the approach since the company's founding, 12 years ago. Decoma, a $2.5-million business, has never had a bad debt. ❑

MARKETING

Guaranteed attention

How do you push an invisible product? That was the challenge facing ComponentGuard Inc., a Valhalla, N.Y., business that sells extended warranties for consumer electronic items.

CEO Robert Minnick came up with a novel approach: he put his service contract and membership card in a colorful plastic package that hangs from retail racks like a stereo accessory. With the new packaging, sales jumped to $6.1 million in 1990, from $1.4 million in 1989. In fact, sales for the first quarter in which the new package was used nearly equaled the revenues for all of 1989. ❑

PHOTOGRAPH: MICHAEL GRECO CHARTS: ELIOT BERGMAN

HIRING

Tell me about it

In an age of professional résumés, it's difficult to tell much about candidates you are interviewing. One way to assess them is to have them write up "minutes" after a job interview. Victoria Buyniski, CEO of $5-million United Medical Resources Inc., in Cincinnati, has used the approach to hire each of the 91 employees who staff her health-care-administration business—from the mail room to the executive suite.

Candidates who don't come off well in a face-to-face interview will often show promotable attributes in their writing, while others describe a job markedly different from what Buyniski has to offer, indicating potential communication problems. "Three pages dashed off in 15 minutes tells me they are producers," she says. "Lots of cross-outs tell me that people couldn't even match their socks very easily." ❑

RESOURCE

Servicing customers

A systematic approach to customer service can be the key to its success. *How to Win Through Great Customer Service*, published by Quill Corp., is a 64-page primer that includes samples of customer service policies as well as a self-assessment guide that can help you cut to the core issues in setting up an effective customer service policy of your own.

To order the booklet, send $2.95 to cover shipping and handling to The Quill Business Library, 100 Schelter Rd., Lincolnshire IL 60069, or call (708) 634-4850. ❑

MANAGING PEOPLE

People's court

An informal employee-grievance policy isn't good enough for American Steel & Wire Corp., in Cuyahoga Heights, Ohio. At this 540-employee business, compensation, promotion, and termination beefs are taken to an employee council that reviews managers' decisions. "We wanted a formal way to resolve issues with employees that would be objective and give them confidence in the management team here," says CEO Tom Tyrrell.

American Steel & Wire Corp.'s Tom Tyrrell

Termination disputes can go directly to the council, but employees must work through a chain of management command for all other grievances. From a pool of employee volunteers trained in arbitration, the complainant blindly chooses nine names and then picks the six employees and one manager who will hear his case. Since June 1988 the council has heard 30 cases. About 50% of the judgments have upheld the manager's original decision. ❑

STRATEGIC PLANNING

WORRY, WORRY, WORRY

What is the biggest concern for your business?

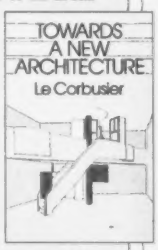
	1990	1989
Sales volume	33%	21%
Cash flow	26	21
Availability of qualified applicants	17	13
Growth	14	12
Affordable employee benefits	8	14

Source: "Pulse of the Middle Market 1990," a survey of 1,650 owners of businesses with revenues ranging from $2 million to $100 million. BDO Seidman, New York City

CEO'S READING LIST

Towards a New Architecture

by Le Corbusier, Dover, 1986



"I studied to be an architect. And I find tremendous similarities between building a company and the design process. Businesses have to do their planning on the fly in a fashion similar to an architect sketching. Le Corbusier talks about the process of designing a building, putting the first sketches down on paper and working from them. Building a business also requires a tremendous amount of sketch work.

"For instance, we rolled out a new series of preparation courses for the LSAT, GRE, and GMAT. Instead of honing the workbooks really carefully before using them with customers, we did the best job we could in six months—sketching out the material and, during that time, tutoring students for free. We created extremely small classes in our first year of operation so the personal touch could make up for flaws in the materials.

"I am always making sketches of how information should look or mapping out a marketing campaign. When I present my notes, people start responding to them. Desktop publishing makes everything look slick. When you present sketches, it helps start the dialogue and collaboration."

—John Katzman, CEO,
The Princeton Review
New York City

PHOTOGRAPH: BRUCE ZAKE

INCENTIVES

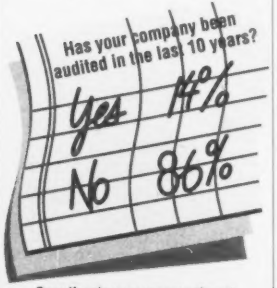
Get now, earn later

Pat Kelly, CEO of Physician Sales & Service (PSS), in Jacksonville, Fla., wanted his medical-instruments salespeople to sell a load of examination tables within 60 days. So he gave them a sales incentive up front: cellular phones that they'd keep only if they sold enough tables. "Once they got used to the phones, I knew they wouldn't want to turn them back in," says Kelly, who had the phones installed while he was offering his sales force the challenge at a meeting.

Kelly wanted PSS's 70 salespeople to sell an average of one table apiece. So the deal was that each of the 12 sales offices would have to sell one $4,000 table for each salesperson in the office. If an office fell one table short, its salespeople would have to chip in and buy one phone. The sales force not only reached its goal of 70 tables but surpassed it; 105 were sold, with no returns. ❑

TAXES

BEWARE OF THE TAX MAN



Growth rate was apparently not a red flag for the IRS. Audited companies had 20% annual growth on average, compared with 16% for unaudited companies.

Source: Telephone poll of 2,092 owners of businesses with 10 or fewer employees. United Group Information Services, Hurst, Tex., 1990

ON THE CHEAP

TONING DOWN LASER PRINTING COSTS *By Cary Lu*

Laser printers have become routine office fixtures as their prices have dropped. But the cost of toner cartridges can easily make the printers expensive to use. There's relief. Remanufactured cartridges are available for laser printers made by Canon Inc., of Japan, and for many other printers.

New Canon cartridges—usually good for 3,000 to 4,000 pages—sell for $90 to $120 each. If you use no more than three cartridges a year, you should buy new ones, since any savings on remanufactured ones will be small.

Remanufactured cartridges typically sell for $50 to $60 with the exchange of an old cartridge. The best way to find a remanufacturer is through referrals from other laser printer users; also check the back pages of local computer newspapers.

Not all Canon cartridges can be remanufactured easily. The EP cartridges used by early Canon printers (Hewlett-Packard LaserJet, Apple LaserWriter, and others) can usually be rebuilt four to six times without difficulty. But the EP-S cartridges (HP LaserJet II and III, Apple LaserWriter II) and EP-L cartridges (HP IIP and Apple Personal LaserWriter) have softer photoconductor drums good for only one or two recharges. To prolong the life of those cartridges, several companies offer replacement photoconductor drums. A recycled cartridge with a new drum can cost as much as a new cartridge, but it can be refilled six or seven times.

Properly done, toner recharging works well—so well that Canon discourages the practice by trying to keep old cartridges off the market. Canon offers to ship spent cartridges for free to a recycling center that reportedly grinds them up. ❑

EMPLOYEE MOTIVATION

Working the phone

"All you have to do is answer customer-support phones for two hours to realize how stressful it is and how important those reps are to building customer loyalty," says Don Emery, president and CEO of $5.2-million Reference Software International (#46 on the 1990 *Inc.* 500), in San Francisco, a maker of grammar-checking programs. Fearful that his staff would burn out, he set aside one day a week for customer service reps to work on self-designed projects.

"It went over like a raise and has benefited our company as much as it did the employees," he says.

One employee programmed a demonstration disk that the company would have had to hire an outsider to do. Another started in-house software-training classes. A third started a computer bulletin board for grammar aficionados. The quality work at bargain prices and low departmental turnover offset the cost of hiring an additional rep to cover the phone lines, reports Emery. ❑

RECRUITING

Classified information

Linda L. Miles gets plenty of hard workers to reply to her help-wanted ads. The CEO of Linda L. Miles & Associates, a $1.2-million trainer of medical office support staff, in Virginia Beach, Va., has fine-tuned her

Classified-ad pro Linda Miles

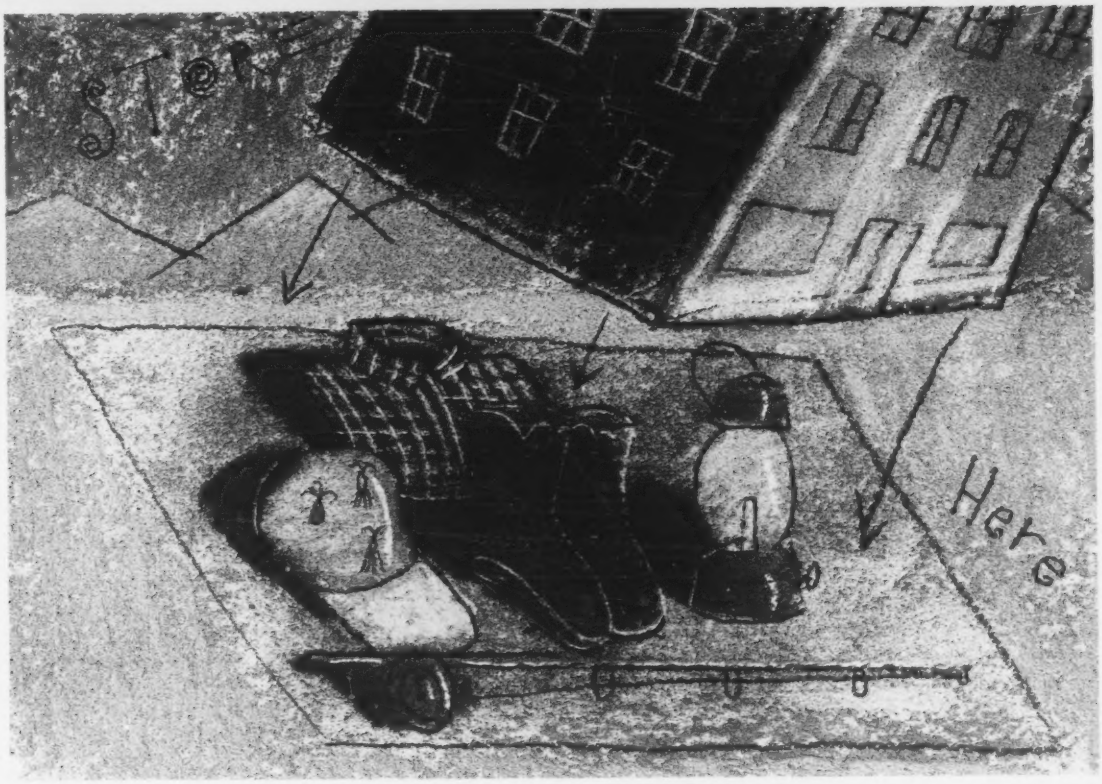
ad copy over the past five years while hiring 16 people. "When employees have a bad day at work, they go home and scan the want ads. Appeal to their sense of being underappreciated," recommends Miles, whose hook reads: "Are you enthusiastic, caring, and dependable? Would you enjoy a secretarial opportunity in an office that truly appreciates the staff?" "That says the company respects employees," says Miles.

She now recommends the approach to her clients. One doctor changed his ads from focusing on benefits, hours, and salary to a more appreciative approach. His responses shot up from 6 to 100. "His old ads attracted applicants who were more interested in benefits than doing a great job," says Miles. ❑

Reported by Teri Lammers, Leslie Brokaw, and Susan Greco

ILLUSTRATION: ELLEN TIKKAEN PHOTO: DOUGLAS MILLER

BUSINESS FOR SALE



RCKY MTN OUTDOOR-GOODS DISCOUNTER

THE BUSINESS A single-location discount retailer of reputable outdoor goods and clothing. If you haven't shopped there, you've shopped someplace like it: aisles strategically cluttered; shelves overripe with everything from tents and Swiss army knives to shoes, denims, and skiwear; a local "institution" that's served three generations of customers despite spending nothing on advertising. The owners are retiring.

FINANCIAL SUMMARY
(in $ thousands)

	1988	1989	1990 *
Gross sales	$3,239	$3,391	$3,600
Recast pretax profit	554	598	630

*projected

PRICE $3 million

OUTLOOK A recession-proof retailer? The sellers claim so. As the economy in its Colorado city went belly-up, sales and profits at this store stayed strong. Sales per square foot exceed $500—more than twice what comparable niche outlets expect. The sellers argue that the business can be expanded by cloning new units that trade on the store's well-established reputation.

PRICE RATIONALE The sellers point to enormous goodwill and reliable profits, but the earnings multiple of five looks optimistic—manufacturers may get that, say insiders, but retailers typically are priced at a multiple of three to four. Net worth is reported at close to $1.5 million, but that too may be soft; nearly two-thirds of the assets are inventory, which banks won't value at 100%.

PROS Solid historical performance, including sales that trend against a slumping market. Some say the local economy is healing, and even if it isn't, this low-end, price/value leader could thrive. The right niche at the right time?

CONS Retailing is distressed, and if the national economy goes further south, then even this business could be hit. Inventory, at $1 million wholesale, is too high and turns over only half as fast as most operators would like. Is regional expansion really possible without cannibalizing the parent?

Inc. has no stake in the sale of the business featured and cannot confirm the accuracy of financial or other information offered by the seller. Inquiries should be directed to Colorado Business Consultants, in Denver.

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